



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

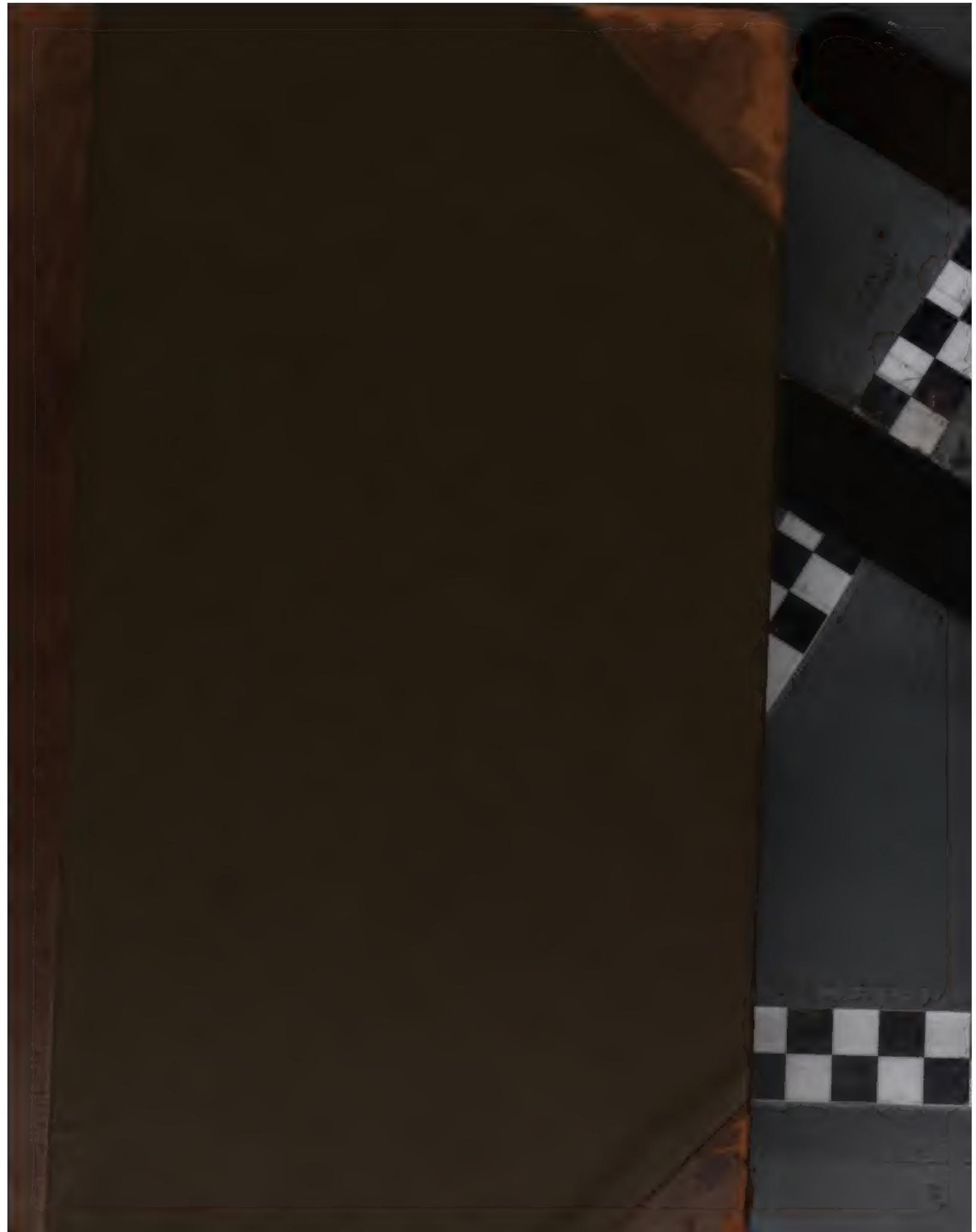
Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

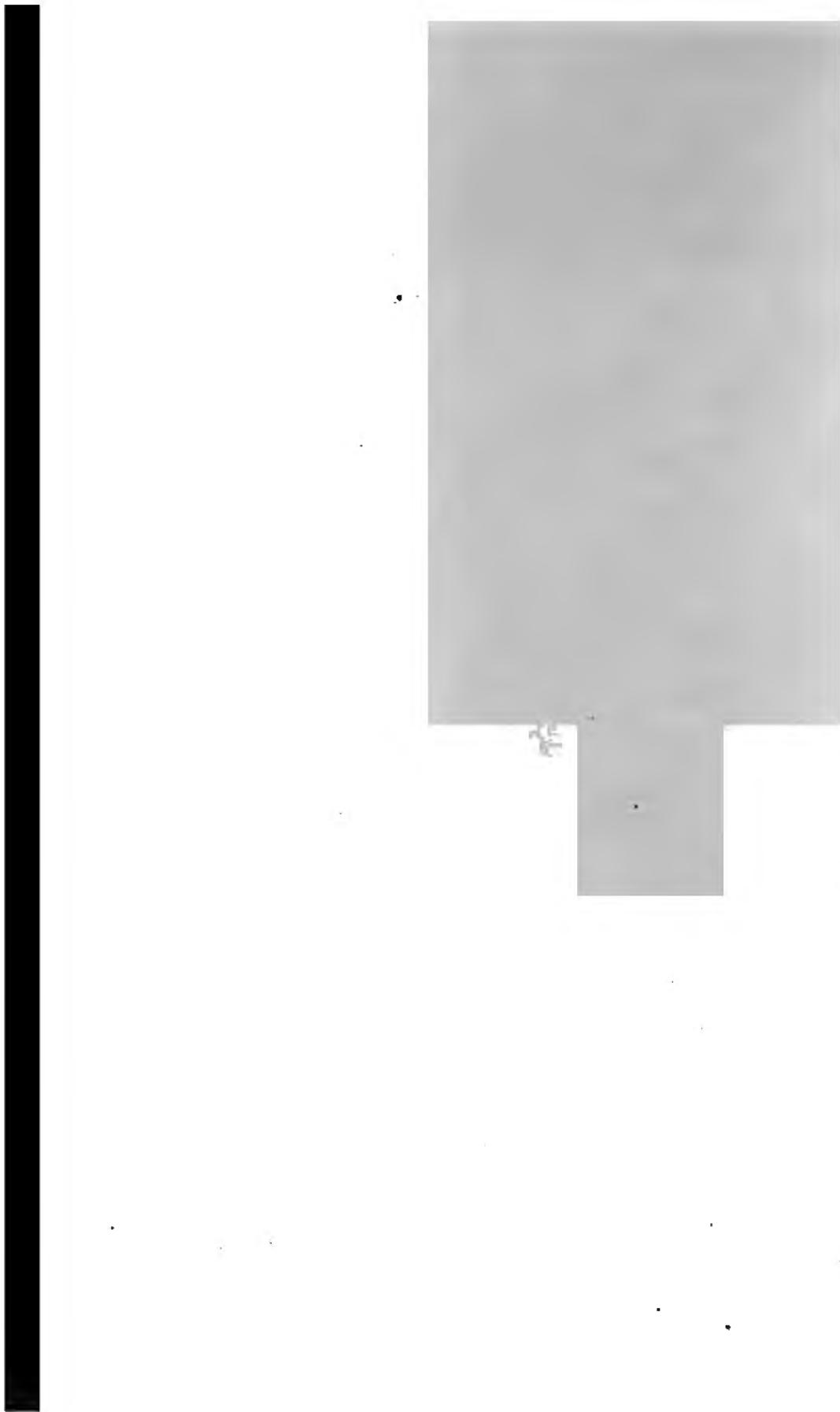
About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>





St.





□

S455
A Z
v. 1

GENERAL VIE
OF THE
AGRICULTU
IN THE COUNTY OF
DORSET
WITH OBSERVATIONS ON THE MEANS OF
BY
JOHN CLARIDGE, OF CRAIG's CO
DRAWN UP FOR THE CONSIDERATION OF THE BOARD
AND INTERNAL IMPROVEMENT

LONDON:
PRINTED BY W. SMI
M.DCC.XCIII.
NEW

5455
A.2
v.1
m.1

I N T R O D U C T I O

For

DORSETSHIRE is a maritime County of about one hundred and sixty miles in circumference; in length, from East to West, about fifty-five, and in breadth from North to South, about thirty-five, containing about 775,000 acres of land. It has four considerable Ports, (viz.) Poole, Weymouth, Bridport, and Lyme Regis, besides Sandwich called Swannage, and Portland, from whence Stone, to a great value, is shipped. It has also twenty-four Market Towns, and two hundred and forty-eight Parishes.

The number of inhabitants resident in the towns, are supposed to be about 48,500, and in the villages, or country, about 40,500, together 89,000.

The greater proportion of the land is in Pasturage, Ewe Leas, or Downs for Sheep, of which the following proportions are estimated in round numbers, (viz.)

250,000 Acres in Tillage.
50,000 — Water Meadow.
90,000 — Pasture.
9,000 — Woods and Plantations.
290,000 — Ewe Leas and Downs,
86,000 — Uncultivated or Waste.
<hr/>
775,000

Of the number of Inhabitants,

About 34,000 are employed in Husbandry,
50,000 as Artificers and Manufacturers,
5,000 as Soldiers and Sailors.
<hr/>
89,000
<hr/>

ks and additional
ivations.

It is enriched by noble Edifices both ancient and modern, with numerous Parks, the residence of many Noblemen and Country Gentlemen.

It is well intersected by Turnpike roads, and accessible to the traveller in all parts, without inconvenience.

The greater part is uneven ground, and much of it very hilly; it has chiefly a high cliff towards the coast, and a very small proportion of Marshy or Fenn Land.

The soil is mostly shallow, upon a chalk bottom, a large proportion of it very poor, but some parts of it (particularly the vale of Blackmoor) extremely rich. The most striking feature of the County, is the open and uninclosed parts covered by numerous flocks of sheep, scattered over the Downs, which are in general of a delightful verdure and smoothness, affording a scene beautifully picturesque.

It has three rivers, (*viz.*) The Stower, the Piddle, and the Froome; the Stower, which is by much the most considerable, runs quite across it, from the vale of Blackmoor to the sea, by Sturminster, Blandford and Wareham. The Piddle, from Piddletown and Bere-Regis, to Wareham. And the Froome from the country north of Maiden Newton, by Dorchester to Wareham. The two latter are much divided in many places, into a variety of small streams, the branches of which, great advantage is derived in watering of the meadow land through which they pass.

It possesses great quantities of stone, chalk, lime and pipe-clay. The air is dry, temperate and salubrious; there are some considerable Manufactures, of great national consequence, which will hereafter be more particularly mentioned.

O N S H E E P.

For remark
obsc

TH E advantage derived from sheep, in the county of Dorset, is very considerable, and it is undoubtedly its greatest object as an agricultural resource; indeed of so much real importance, as to be productive of great national benefit. The number of sheep kept in the county, from the best enquiry and computation I have been able to make, amount to upwards of 800,000; and the number sold annually and sent out of the county, amount to upwards of 150,000. The greatest advantages are derived from them, as well from the profit upon the fleece and carcase, as from the quantity of ground manured by them, which I shall endeavour hereafter more minutely to point out.

In one particular instance the sheep owners excel all other parts of the kingdom, which is in providing ewes to yean at a remarkably early season, in the midland counties, which supply the metropolis with fat lambs.—In order to shew the principle on which this mode of grazing is carried on, I shall venture to give a detail of their process and management, as far as it has fallen under my observation.

To describe the true Dorset sheep may be difficult, as to its size and shape, but I apprehend, that if the face and nose are white, and the claws or feet without any mixture of colour, the forehead woolly, and the face long and broad, the horn round and bold, and projecting rather forward, a broad shoulder, straight back, broad loin, deep carcase and short in the leg, it is the nearest to the true description of a Dorset sheep. This attention to have the sheep without colour, is considered of material consequence by the breeders of early lambs, as they are said to be of more value for the.

London

works and additional
observations.

London market, on account of the extreme delicacy of meat.

The season for putting the most forward ewes to the stall is the last week in April, for such as are to be sold the following Autumn. And for the flock (which are to be kept about Midsummer. The lambing season therefore for the most forward ewes, is about the middle of September, and they are sold about a fortnight before this time at the fairs in London, from twenty-six to thirty-two shillings each. The lambs produced from these ewes are suckled in the hands of the breeders on many farms round the metropolis, which makes house-lamb fit for the table as early as Christmas. The other part of the flock less forward, do not yean till the beginning of December, but those yield a considerable proportion by their lambs being fattened upon grafts, very early in the spring near London, and produce what is called the early grass-lamb. The lambs kept in the hands of the breeders are always taken from the ewes in May, and are then worth eleven or twelve shillings each. They are always shorn in this county about Midsummer, and produce from one pound to one pound and a half of wool each, and the ewes are also shorn about the same time. Lambs when shorn, if sent to sale at the fairs in July, are worth about thirteen or fourteen shillings per head, but if kept, from this time the sheep begins the process of folding; at one year old is called a yearling, and produces four or five pounds of wool, and the carcass is worth about a guinea. The second year the sheep is a full tooth, the fleece produces about four pounds and a half of wool, and the carcase is worth about twenty-five or twenty-six shillings. The third year the sheep is a full moulted weather, and produces about five pounds of wool, and is then worth thirty shillings or a guinea and a half, is sold if kept longer, but generally sold from the county. If however, the sheep be kept well, the next year, its weight

ADVERTISMENT.

THE following valuable communication, respecting the present state of husbandry in the county of Dorset, and the means of its improvement, drawn up for the consideration of the Board of Agriculture, is now printed, merely for the purpose of its being circulated there, in order that every person interested in the welfare of that county, may have it in his power to examine it fully before it is published. It is therefore requested, that any remark, or additional observation, which may occur to the reader, on the perusal of the following sheets, *may be written on the margin*, and transmitted to the Board of Agriculture, at its office in London, by whom the same shall be properly attended to; and when the returns are completed, an account will be drawn up of the state of agriculture in Dorsetshire, from the information thus accumulated, which, it is believed, will be found greatly superior to any thing of the kind ever yet made public.

The board has adopted the same plan, in regard to all the other counties in the united kingdom; and, it is hardly necessary to add, will be happy to give every assistance in its power, to any person who may be desirous of improving his breed of cattle, sheep, &c. or of trying an useful experiment in husbandry.

TO THE READER.

IT is requested, that this Paper, may be returned
Board of Agriculture, before the first of March next

It is hardly necessary to add, that the Board do
consider itself responsible, for any fact or observatio
nained in these Reports, which, at present, are print
circulated, for the purpose merely of procuring add
information, and of enabling every one, to contrib
uite, to the improvement of the country.

be twenty or twenty-five pounds per quarter, and will produce thirty-six or thirty-eight shillings.

The wool produced in this county, is short and fine, of a close texture, and the quality of it is highly esteemed in the manufactory of that staple commodity called broad cloth. It is sold here by weys or weights of thirty-one pounds standing, and the average price, is ten-pence or ten-pence half-penny per pound ; lambs wool produces about an halfpenny, or a penny per pound less.

There are no ram fairs, or farmers who let out rams for hire for the season, in this county. But they are chiefly bred from the farmer's own stock, are put with the ewes at about a year and a half old, and the better sort of them, are not esteemed of a higher value, than three or four guineas per head.

The wether sheep are constantly folded all the year round, running over the ewe leas or downs by day, and are penned on the tillage by night ; they are penned late in the evening, and let out from the fold before sunrise in the winter, and not later than six o'clock in the summer. The ewes are folded only in summer, that is, when they have no lambs.

The mode of penning sheep indeed, varies in some parts of the county, as well as the size of the hurdle, but in general the size of the hurdle is about four feet six inches long, and three feet six inches high, made chiefly of hazle, with ten upright sticks ; and fifteen dozen of them, with a like number of stakes and wriths, to confine them together, will inclose a statute acre of ground, and will contain twelve or thirteen hundred sheep therein very commodiously. The hurdles are moved every morning, consequently the same number of sheep will manure an acre of land daily. One penning is never estimated worth less than half a guinea, or twelve shillings per acre, and two at a guinea. The hurdles are worth seven shillings and six-pence per dozen, including stakes.

and additional
ations.

The sheep are constantly attended by a shepherd the whole day, whose wages is six shillings per week : a great coat yearly, and a breakfast on a Sunday : A dog is found and maintained by the shepherd, and the master has the skins of the dead sheep.

It is a practice with many farmers in the inclosed part of Dorsetshire, to buy lambs at twelve or thirteen shillings per head, keep them two years, and sell them to butchers at twenty-five or twenty-six shillings each.

It is generally understood that the original breed of the Dorset sheep is very scarce to be met with, as most of the farmers have crossed their flocks, with the breed of the Hants Wilts and Somersetshire sheep, which have certainly improved them as to size ; and I have not observed any person more speculative as a farmer and grazier in the county, than Mr. Bridge, of Wensford Eagle, who has tried various sorts and has now introduced Mr. Bakewell's Leicestershire breed into the county, which he thinks are quite as fine in the wool as his own, and those he has bred are full as large as the Leicestershire. He is aiming to produce lambs from them, as early as the home breed, and is sanguine in his belief that the lambs will be as delicate in the grain of the meat, as those which are bred from the true Dorsets. He is also of opinion that they are full as hardy, will be supported with less fodder, and that both the wethers and ewes of this breed, will fat faster than the old Dorsets. At present this is an experiment, the trial of which certainly does him great credit, though the opinion against this project, is in general unsavourable to its success ; it is supposed, that the lambs being so much larger will not retain the usual delicacy, and that it may open a new trade in other parts of England, to supply the London market with early lamb ; but on this latter point I think there is little to fear, as there are no water meadows in sufficient proportion in any other part of England ; which are so well managed as in Dorsetshire.

Dorsetshire, and which are so essentially necessary to the produce of the early breed of sheep.

Besides the sheep peculiar to Dorsetshire, there is another very small breed in the county, in the neighbourhood of Weymouth, in the Isle of Portland, the Isle of Purbeck, and about Wareham and Poole, which are inferior in size to Welch sheep : when fat will weigh not more than eight or nine pounds per quarter, and the best of the ewes to yean, not worth more than fifteen or sixteen shillings per head.

A general average of the produce of wool.

WETHERS.

First year, a hog	1 $\frac{1}{2}$ lbs.	First year, a chiliver	1 $\frac{1}{4}$ lbs.
2d ditto, four tooth	4 $\frac{1}{2}$ lbs.	2d ditto,	3 $\frac{1}{2}$ lbs.
3d ditto,	4 lbs.	3d ditto, six tooth	5 lbs.

Upon the whole, from a due observation of the quality and number of sheep bred and kept in the county, it may be supposed, with some degree of accuracy, that the produce of wool annually, is ninety thousand weys, or weights of thirty-one pounds each.

The number of wethers sold,	50,000
The number of ewes,	100,000
The number reared,	450,000
And the home consumption,	290,000

It is incumbent on me to take notice of a disorder peculiar to sheep, which is sometimes fatally experienced in this county, called the Goggles ; it attacks them at all ages, and no remedy is at present known for it ; the first symptoms is a violent itching, which is very soon succeeded by a dizziness in the head, staggering of gait, and a weakness in the back, as if the spinal marrow was affected, under which they sometimes languish a few weeks, and this disorder has been known to be fatal to the greatest part of a flock, and is considered as the most calamitous circumstance, the sheep owners have to dread ; it is very difficult to assign the cause of this disorder, but some of the old fashioned farmers

and additional
ations.

think that as no such disease existed, prior to the introduction of the breed from other counties, consequently its origin may be imputed to this cause ; but this is an argument perhaps of prejudice, grounded merely on conjecture, though I own I am inclined to give it some credit.

HORSES, CATTLE and DAIRIES.

THE breed of horses in this county, is not particularly attended to : a slight blood horse is made use of for the field and road, and a very ordinary filly of cart horse, used in agriculture ; some cart colts are bred in the vale of Blackmoor, and many others are brought in, either as suckers or yearlings from other counties. Some individuals indeed, have good teams, and are very careful of their horses ; but from general observation, I am persuaded, the Dorsetshire farmers, pay but little attention to the shape, size, or symmetry of the cart horse. The stallions are chiefly working horses of farmers, and cover mares at half a guinea each for the season, and an average price for a cart horse at five years old, is sixteen or seventeen guineas.

I was glad to find that oxen are often used in agriculture here, and the breed are of two kinds ; those on the western side of the county are chiefly from the red ox of Devonshire, an excellent sort ; and the others in the more eastern and northern parts, are a mixture of the Hampshire and Wiltshire, with many crosses of the Oxfordshire, Gloucestershire, Shropshire and North Country beasts. As the cattle are very much used in dairies in this county, very little attention is paid to the size of the breast, or to shape or colour, but if likely to make a good milker, it seems all that is necessary, and is worth from eight to ten guineas, to come into the dairy at a proper age.

The

The oxen chiefly fed in the county, are of the Devonshire breed, and go when fat to Smithfield market, and are said to be the finest grained meat in the kingdom. These are mostly fed in the vale of Blackmoor, which extends from North to South about nineteen miles from Gillingham and Silton, to Dantish and May Powder; and from east to west, from Compton and Sutton, about fourteen miles, to North Wotton and Long Burton, and contains upwards of one hundred and seventy thousand acres of very rich land, chiefly grazing, dairying, and about one tenth part in arable, with some plantations of orchards.

Through this vale runs the river Stower, which is now undergoing a great improvement, from the general Act of Sewers, by cutting down the sides and removing obstructions, which will tend to the general drainage of the country, and be a lasting improvement. Some of the land upon the side of this river, is rich enough for an acre and a quarter to carry a full sized Devonshire ox through the summer. Most of the hay in this vale is of an excellent quality and beasts thrive well through the winter upon it, without any other food. An average value of it to the farmer is forty shillings, but if sold to towns, it produces fifty shillings a ton. One ton of hay will keep an ox twelve weeks, allowing him one hundred weight and a half per week, which is sufficient to last from Christmas to the middle of April; the profit upon the ox is estimated at five pounds a head each, and barren cows and heifers are reckoned to pay fifty shillings per head each.

There is a shew of cattle and some sheep at Stalbridge, in this vale, every Monday fortnight, through the year, which is the best market for fat cattle in the county, and about one hundred and twenty in number are bought and sold here, one market day with another.

The other cattle grazed here, are either home bred, or heifers, brought from Ringwood and other Hampshire fairs,
and

as and additional
rations.

and when fat, supply the home market, and sometimes are sent to Salisbury.

The breed of pigs in this county is not so good in shape as either the Hampshire, Berkshire, or Hertfordshire sort; they are of a light colour, feed to about nine or ten score on average for bacon, and are worth about six shillings and six pence, or seven shillings per score. As there are so many dairies, an improvement in the breed of this animal might be made by the introduction of the sorts before described.

The dairies extend all over the county, cow-calves, in general are reared, and bull-calves afford a supply of veal. The management of the dairy, as every where practised in Dorsetshire, is unknown to many other parts of the kingdom. The cows are all let out by the farmer, to a dairy-man, at a fixed price for each cow, according to the quality of the land and produce of the beast. In some of the poorest parts of the county as low as fifty shillings or three pounds per head, per annum, and in others, as high as five pounds ten shillings, or seven pounds; and in one parish in Berminster, called Broad Windsor, as high as eight pounds but I believe the general average throughout the country will be about six pounds for a cow of full growth; four pounds for heifers, and four pounds ten shillings, or five pounds, for three years old. The usual plan for letting a dairy is this: the farmer finds the dairy-man a certain number of cows for one year, commencing at Candlemas, a fixed sum agreed on. He feeds, fodders and supports a specific number throughout the year; he finds a house for the dairy-man and his family to live in, and allows him to keep as many pigs and poultry as he thinks proper, and to keep of a mare to carry out his butter, &c. which by producing a foal yearly, is considered a material advantage to the dairy-man, who perhaps sells it when weaned in November from eight to ten pounds. If the farmer is inclined to let his dairy to another man, he gives the dai-

man notice before All Saint's Day, and by custom the quarter of a year from November to February, is deemed sufficient, and the dairy-man quits the house and gives up his bargain the ensuing Candlemas. The dairies in general are managed by making all the cream into butter, and from the skimmed milk, an inferior sort of cheese, which sells from twenty-five to thirty shillings per hundred weight in the county, and the butter, which is worth eight-pence or ten-pence per pound, is in general salted down in tubs, and supplies Portsmouth and the London markets; but there is also made a considerable quantity of the better sort of cheese, which brings a price as high as thirty-seven shillings or two guineas per hundred weight.

The grazing, however, in many other parts of the county, cannot be rated so high as the vale of Blackmoor allows me to do, and it will be found nearer the true average upon the feeding land; that two acres will summer a beast, and that the profits will not exceed three pounds per head. Some farmers, particularly in the neighbourhood of Dorchester, and indeed in many other places, are very choice in their cows; and I had frequent opportunities of seeing several dairies, which did great credit to the owners taste and judgment. The partiality for the Derbyshire and Leicestershire sorts, is certainly most prevalent, and the observation is just, that those cows from the north country breed, carry infinitely more flesh, than the home-breed, and those most sanguine in this opinion are positive, that they produce quite as much milk, and of equal goodness; but of this I have my doubts, particularly as they consider seven or eight quarts at a milking, an abundant quantity, with the best keep; which is certainly much less than the produce in many other parts of England.

marks and additional
observations.

THE CULTIVATION OF ARABLE LAND.

THE general practice and management of the land in this county, is less attended to, than any other part of agriculture. Great part of the soil of the enclosed land is light and easy to work; all the open and uninclosed land are so likewise, and the Norfolk husbandry might be adopted with success in almost every part of the country. From the observations I have been able to make upon the present practice, the idea universally prevails of ploughing all crops into the ground, with as few ploughings as possible; and on my journey through the county I observed the practice of wheat sowing effected with one ploughing, either upon a lay, clover, sward or what is called fallow, which was often full of docks, quitch and thistles; and this land, which if worked well by repeated plowings, would easily have been made the finest tilth. Indeed, ploughing is so little attended to, that all symmetry and neatness is disregarded, and in many small pieces of ground, I observed the ploughman vary three or four yards from a straight line, in a very short distance, and persevere in a vagrant direction as a matter of no import.

The Plough used here, which is called Sull, is long, and heavy; has one very small wheel on the side of the beam, and is constantly worked by four horses, two a-breast, or two oxen in yokes; and three quarters of a statute acre is all that is ploughed per day.

In the vale of Blackmoor and in other inclosed parts the mode of cropping is by three crops and a fallow, viz.

- | | |
|----------------------|--------------|
| 1st, Wheat, | 3d, Oats, |
| 2d, Barley or Beans, | 4th, Fallow. |

Or if clover is sown with the oats in the third year, then instead of fallow, wheat is sown upon the clover sward. Here I recommend the Dorsetshire farmer to change his four shift husbandry for the following rotation :

- 1st, Wheat,
- 2d, Turnips,
- 3d, Lent Grain with seeds,
- 4th, Clover.

The seeding always takes place the beginning of October; two bushels and an half to an acre are sown. Some farmers in this part of the country make four ploughings of their fallow for wheat, and sow the seed under furrow, before the fourth ploughing. Three ploughings of the next, if for barley, and one for beans, and the following year, two earths for oats. The bean crop here is always sown; never set drilled, hoed or cleaned, nor is the hoe used for any crop whatever.

Tillage lands let in this part of the country, at about twenty shillings per acre, and the return, on average is, of Wheat, 20 bushels of nine gallons.

- Barley, 30 ditto.
- Beans, 28 ditto.
- Oats, 28 ditto.

About most of the towns in Dorsetshire, the land lets at a high price. Pasture land for convenience, from forty to fifty shillings per acre, and arable land at about thirty shillings. Garden ground is let out to manufacturers and artificers, for the growth of potatoes and other vegetables, at six-pence per perch or pole, which is at the rate of four pounds per acre.

The country north of Sherborne, which adjoins the vale of Blackmoor, affords some of the best arable land in the county. The soil is a stone brach, very easy to work, and about three parts in four, are ploughed. The rent is esti-

C mated

: and additional
rations.

sated here, at about a guinea an acre, and turnips are much grown, generally after a wheat crop.

Tithes are taken by composition at about three shillings in the pound, but if set by the crop, the following proportions are usually taken, viz. s. d.

For wheat,	-	7	0 per acre.
Lent grain,	-	5	0 ditto.
Potatoes,	-	4	0 ditto.
Water meadow,		3	0 ditto.
Dry meadow,		2	6 ditto.
Clover,	-	1	6 ditto.
Orchards, besides hay,	-	1	0 ditto.
Lambs,	-	8	0 for every tenth, and
Cows,	-	8	0 to twelve shillings.

Flax is much grown about Birminster and Bridport, where the land is naturally very good, and where the succession crop is nearly the same, except that the flax is generally sown after the wheat crop.

A great deal of lime is used as a manure, and twenty hogsheads of four bushels each, per acre, is esteemed a good dressing, which costs four-pence halfpenny per bushel; but those farmers who are situate near coast, draw a great deal of sea-weed or kelp from the shore, and sometimes spread it at once on the ground prepared for wheat, and sometimes mix it with earth and make it into compost, both of these operations have a good effect.

An extraordinary instance is well attested by many respectable people, that some farmers have on a particular occasion, when there has been a drug of fish upon the coast, manured their land with them, which has produced a very florid crop.

One in particular, is of Mr. Davies, of Swire, who about four years since manured a piece of land for wheat, from a shoal of herrings, which cost him no more than one shilling a

ling per load, besides carriage, he scattered them lightly over the land, sowed it with wheat and ploughed them in, and the crop produced thereby was so rank as to be intirely laid before harvest.

An average weight for wheat grown here, is twelve score, which is two hundred and forty pounds weight per sack, or sixty pounds per bushel. Some farmers in the more open parts of the county think eleven score and a half is a better average weight per sack.

The tillage in the open parts of the county, is very much upon a chalk bottom, and all the way towards the coast by Abbotbury and Weymouth, being of an inferior quality, returns less produce than I have before stated; and the uninclosed parishes receive no other advantages from manure, but by the penning of sheep, which is a great resource.

The harvest is generally got in by the acre, and five shillings an acre is given for cutting wheat, if reaped, and eighteen-pence if mowed. Barley, fourteen-pence per acre. The price of threshing is one shilling per sack of four bushels, and two-pence per bushel for barley.

The tillage in the Island of Portland is a stone brach, and likewise in most parts of the Isle of Purbeck, which is said to be very fruitful, and that part of Purbeck called the Golden Bowl, to produce three quarters of wheat per acre. In the centre of the county, which is a very fine part of it, the soil is good in quality, and the land well managed; some excellent turnips are grown here by a few farmers only, both broadcast and drilled; but in general, they are not hoed, nor is the land prepared for them properly.

The growth of barley affords a large produce. A great deal of malt is made for the internal consumption of the county, particularly in the article of strong beer, which is much used. The malt is generally dried with Welch coals. From ten to fourteen bushels of malt per hogshead of sixty-three gallons, with Earnham hops, makes the beer so much:

and additional
actions.

esteemed here, which is kept eighteen months or two years before it is drank ; and in some of the towns, ten or twelve thousand bushels of malt are made annually.

Two horses to a Norfolk wheel plough are made use of with great success by a few farmers, and this process is mentioned as a rare instance ; but I am satisfied from my long experience and practice in agriculture, that it might be brought into general use here ; and two horses to a Norfolk plough with a lad, would plough more land than four horses do now with two people to attend them ; and if the Norfolk husbandry were brought into use, it could not fail to answer, as it would render the Dorset farmer more advantages than almost any other ; inasmuch as it would afford him, by the general growth of turnips, winter food for his sheep, which is so much wanted, and enable him to have his land in a perfect clean state for every other crop, without incurring any additional expence.

The process of the Norfolk plan is very easy in its execution, and it is an invariable maxim in that country, to prepare their lands for turnips, by frequent ploughings, the preceding winter and spring, and to bestow on it the best dressing possible, by dung or compost ; to sow the turnips in June immediately upon the last ploughing, and harrow them in before the field is left. After this they are hoed never less than twice, and sometimes three times over, which not only tends to increase the growth of the turnip, by earthing up the root, but wholly eradicates every kind of weed. The produce frequently amounts to forty cart loads per acre, and the quantity and advantages arising from them to the grazier, need not be painted out by me here. In consuming the turnips, about half are generally drawn off upon the stubbles or clover lays, and are strewed before cattle and sheep, which in Dorsetshire might be practised to the greatest advantage, by doing the like upon the ewe leas and upland pastures, which now receive no help from manure

manure at all ; the remainder of the crop is then fed off by sheep, and the land left in both a rich and clean state, to be sown with barley the next year, of which it seldom fails to produce an abundant crop ; with this crop it is sown with clover, and upon the second years lay, manured by turnips given to cattle, as before mentioned ; it is sown with wheat the following autumn, and then one ploughing only is required.

An improvement even on this plan might be effected in Dorsetshire, and if some rough parts of the downs, or ewe leas, which are now over-run with bushes and furze, were ploughed up, used in the manner above described, and when laid down with grass seeds, continue so seven or eight years, whilst other land was converted, it would be a great advantage to the country at large, and would assist the produce of cows very materially. I do not mean, however, to recommend the breaking up of any of the best of the downs, as they are valuable in their present state. The land in Norfolk is of that dry sandy nature, that it will not convert into pasture, and therefore lays down in grass seeds seldom more than two years ; but the case is very different in Dorsetshire, where the finest verdure is often found on the tops of the hills, and the land almost every where inclined to become good pasturage. Another reason why the growth of corn should be more attended to in Dorsetshire is, that the proportion of land sown annually is not so much as it ought to be, and obliges it to import from other countries, much more than it exports one year with another.

The open and uninclosed parts are in general poor land, and will average at a rent of ten shillings per acre, including meadow, ewe leas, tillage and downs ; and on this part of the county I do not see any improvement can be made by inclosing, as the great scarcity of wood, and in some places of stone, would make it very expensive. But the converting the upland pastures into a course of tillage for a few years,

and

s and additional
rations.

and then laying them down again, would I think enable the farmer to keep more stock than he can do at present, and be a general benefit, by increasing the growth of corn.

In some of the poorest and most hilly parts of the county the growth of sainfoin would afford a great supply of hay of the best kind for horses, the cultivation of it should be increased, and as an inducement to the encouragement of the growth of this article, I would recommend the landowner to allow their tenants the cost of the seed, which is thought by some, to be too expensive for them, to risk upon farms where they have no leases, as the charge of it amounts to as much as thirty shillings per acre.

The price of labour is six shillings per week, and it is settled point between the labourer and the farmer in most parts of the county, that all workmen employed in agriculture, shall have a sufficient quantity of wheat, for the support of their families, at the standing price of five shillings per bushel, which is an assistance so advantageous to the labourer, that it is an example well worthy the imitation of the whole kingdom.

There is a considerable part of the county (though perhaps the fee of the whole parish belongs, at most, to one or two persons) which is leased out for lives, and generally the land is here intermixed and confused by copyhold and freehold tenures. The customary terms for renewal of leases for lives, are nearly as follows : For copyhold,

2 years purchase is taken for one life,

8 ditto for two lives,

16 ditto for three lives, besides the widowhood.

On leasehold, 2 years purchase for one life,

7 ditto for two lives,

14 ditto for three lives.

Though this mode of letting land on lease is much less practised now than formerly, and is much reprobated by many land owners, and although many objections may be

stated

stated against it, still it is in general beneficial to tenantry, and certainly tends to the keeping down great farms more than any other cause; and I am of opinion, that if the rights appertaining to these leases could be separated, and allotments of land given in lieu of common rights, it would be an advantage to the public at large, as the interest the lessee has in the estate, makes him anxious to carry on improvements, which he would not otherwise do. Mr. Kent has very ably treated on this subject, in his hints to gentlemen of landed property, under the head of " Benefit to Society from Church and College Tenures." However, in this county the custom of renewal is wearing out, for no sooner does the lessee understand from the owner of the fee of the estate, that no renewal is to take place, than he becomes negligent, takes no care of the timber, and suffers the buildings to fall so much into decay, that by the time the lease expires, the landlord finds all the buildings in ruins, which being too expensive for him to repair, he is induced to consolidate it with some other farm.

In many instances, a very valuable tract of common land is divided into horse and cow leas, let out again to different people, which land, if converted into arable or pasture, as it is best calculated to become, would be worth eighteen or twenty shillings an acre, yields now, by having no draining, cleaning, or improvement, not more in present produce, than seven or eight shillings per acre. In these cases, if a general exchange were to take place, and each individual were to be accommodated with his allotment of land equivalent to the value of his common right, laid as much together, as situation and circumstances would admit the commonable land inclosed, and each man's right specifically divided, the most must then be necessarily made of the property in each persons possession, and the number of small occupiers of land would still continue, which would be a great advantage to population and the community at large. To effect

to and additional
rations.

effect this separation or division of the rights of individuals in a parish, something is wanting less expensive than an Act of Parliament, for an inclosure, which oftentimes defeats the improvement, by the heavy charge incurred, seldom less than three or four hundred pounds, besides the risk of not succeeding. In parishes where all parties are agreed, if this sort of business were to be done by commissioners, composed of intelligent farmers or gentlemen's stewards, under good regulations, many improvements would take place, which are now not objects of sufficient consequence to apply for an Act of Parliament for. In many parts of Dorsetshire, one man occupies a whole hamlet, parish, or lordship; perhaps from fifteen hundred to two thousand acres, which I fear has been too frequently made, by laying five or six farms together, and thereby striking a fatal blow at the little farmer who is one of the most useful members of society. The increase of large farms, evidently tends to place the great farmer at too wide a distance from the labourer, whom he considers a mere vassal, and though he employs him, at so much a day, what he calls a customary price; still it is out of the power of the labourer, either by strength or ingenuity, or the most indefatigable industry, scarcely to supply his family with the common necessaries of life; and the moment his activity ceases, he becomes a pauper; the most he finds himself in possession of, is a cottage, seldom in good repair, a very small garden, and he can hire no land, even if he has a friend inclined to assist him with money or credit. This is a picture too often seen, one of the bad effects resulting from large farms, and will I doubt hold good in many other places as well as in Dorsetshire. The situation of the labourer also in another point of view is pitiable, when we consider under what disadvantages he lays out his money, compared with a tradesman or farmer; the only means he has is to purchase every article he wants from the little shop in the village, which is supplied from the next market town.

and that from the mart or manufacturer ; so that from the number of hands each article goes through, the price is often increased more than fifty per cent. before it reaches the consumer, who has it not in his power to complain, because he is seldom able to pay in ready money for the articles he wants. This subject will I hope be taken up by some abler pen, as the situation of the labourer employed in agriculture, deserves consideration, and I trust will engage the attention of the Board of Agriculture, for he is one of the first sinews in this great commercial country. But if we suppose the same quantity of land before described, in the hands of one man, were to constitute ten or twelve little farms, the profits upon their labour and industry, would be such, as to enable them to bring up their families with comfort ; the industry taught them in early youth, never fails to make them the best of servants and artificers, and the most orderly members of society ; the labour in agriculture in these cases, is done by the farmer and his own family ; every minute article of produce, is carefully attended to, which fills the markets with provisions of all kinds, and that constant attendance upon the little market, promotes an intercourse between trade, commerce and agriculture, that is a mutual advantage to all three ; which it can never be worth a great farmer's while to do. It is difficult to apply a remedy to the case of the labourer, and but one strikes me to be practicable, which is, that all labour should be paid for in kind, at least as much as possible, and then when corn was at the dearest price the labouring hand would be fed as amply as any other, and by suffering every labourer to have a large garden ; to cultivate which every encouragement should be given to him.

There are a considerable quantity of orchards in the vale of Blackmoor, and on the Somersetshire and Devonshire side of the county, and the cyder made, is mostly of the Devonshire sorts. It is chiefly used for home consumption, and I

icks and additional
erations.

heard of no plantations sufficiently extensive, where grower could sell to other counties, to make any considerable return. It is esteemed worth a guinea or thirty shillings the hogshead of sixty-three gallons.

Draining, except in the water meadows, is very little practiced in any part of the county. Some of the tillage-lands, which is gravelly and springy, might be much improved by it, according to the Essex mode, as well as by laying the outsides of the fields, mixing them with lime, carrying them over the ground, and always securing a gully for the water, from each field to a ditch.

T H E
CULTIVATION of FLAX and HEMP.

THE growth of flax and hemp, and particularly the former, is of great importance in the agriculture of Dorsetshire, and in the neighbourhood of Bridport in particular, and about the village of Bradpole and towards Beaminster the greatest proportion of it is grown. The best seed is usually imported from Riga, and sells for twelve shillings and six-pence, or thirteen shillings per bushel; it is considered of very material consequence always to change the seed, as the same sort of seed, will not grow with success two years in succession, in the same ground; as a proof of this, whilst the seed recently imported, produces the plant before-mentioned, the best seed grown here is not worth more than eight shillings per bushel, and the inferior seed, unfit to sow, is not worth more than three shillings nine-pence or four shillings per bushel. It is generally sown broad-cast, about the middle of April, at the rate of

bu

bushels to an acre, upon any stubble, after only one ploughing, and clover-seed is often sown with it. It is ripe about the end of July, or beginning of August, when it is drawn by hand, by women and children, at four shillings and six-pence or five shillings an acre, and laid in swarths till it is dry, then bound up in small bundles, and the seed is beaten out in the field where it grew, by a piece of wood on a stick, more heavy than a common flail, and the seed sifted clean into a large sheet; afterwards the stalk is laid on stubble or pasture ground, till it is completely dried, and often turned, and if the weather is wet, it is necessary to set it up in small bundles; when it is sufficiently dried, and fit to bark, (which is what is called swingling) it goes to the flax dresser, and is ready for his operation to prepare for the manufacturer. It is always pulled up in a green state, and is fit to draw, when the leaf on the stalk drops, and the milky juice of it is dried up.

In managing of the flax here, the stalk is never thrown into water, as is the common practice of Lincolnshire and other places, but attains its proper state more gradually, by what is called dew ripening, which is acquired by exposing it to the air for a long time together. From eight to twelve bushels of seed per acre, is esteemed a good crop: dry seasons suit it best, and the farmers think, if it is not sown more than once in six years, it does not exhaust or injure the land. This crop is extremely valuable, and besides the seed, it produces from fifty to sixty dozen pounds weight per acre of flax for spinning, worth from four shillings and six-pence to seven shillings per dozen. Its value is generally from eight to ten pounds an acre, including the seed, but it is a precarious crop, and much dependant upon seasons.

It is frequently let to a middle man, (between the farmer and the manufacturer) called a flax jobber, who pays the farmer a neat sum of four or five pounds an acre; he manages the crop, finds the seed and labour, and expects

ks and additional
ivations.

nothing from the farmer but ploughing, and the discharge of parochial taxes: the ploughing is estimated at six shillings per acre, and the harrowing, rolling, &c. at four shillings more.

The inferior seed, not good enough to be sown, is very valuable from its oily quality, which is extracted from it by its being first bruised in a mill, and then put into bags or cloths, and pressed by a heavy weight, when it produces oil used by painters. Two gallons may be extracted from a bushel of seed, which weighs about forty-eight pounds. This operation is repeated by heating and pressing again till all the oil is effectually extracted, and the hull or husk produces the oil-cake, which is much esteemed for feeding cattle. The oil cold drawn is the first pressed from the seed without heat, and is the most valuable.

There is a mill at Lime for this operation, under the direction of Mr. Dawson, where a considerable trade is carried on.

The flax seed is also used sometimes in this county for feeding cattle, by boiling it or first bruising, and steeping it in hot water, which makes a sort of saloup; and when malt grains can be had to mix with it, the food is of a very nourishing quality; and this mode is practised by Mr. Bridge of Wenford Eagle.

Hemp-Seed requires a greater depth of soil, should be sown upon a clean fallow, manured very copiously; it is worth four shillings per bushel, is usually sown broadcast in May, at the rate of two bushels per acre, and is ripe in September; it produces about twelve bushels of seed per acre on an average, worth from three shillings and sixpence to four shillings per bushel. The hemp stalk is of two kinds, though grown together, (male and female) the ones without seeds in the head are the male, and are ripe in July, about nine weeks from the sowing, and are then drawn out by the hand; the other, being the female,

is seldom

seldom ripe till the middle of September, when they are also drawn out, and bound in bundles, and set up to dry; about ten days afterwards, these bundles are untied, the head held upon a hurdle by one person, whilst another beats the seed out with a small threshing flail; it is then laid upon stubble, or pasture ground, to be gradually dew ripened, and to be in a state fit for the use of the manufacturer.

The produce of hemp per acre is about thirty-six stone, worth from six to seven pounds.

The seed of the hemp is never manufactured in this country, but is sold into Somersetshire, or goes to the London markets.

A peculiar measure is here used for both hemp and flax, eight gallons neat make a bushel of flax, and five pecks make a bushel of hemp, or a bushel and quarter to nine gallons measure.

The quantity of hemp and flax collected from the office of the clerk of the peace, of the county, since the bounty allowed by act of parliament has taken place, will shew the return of its produce. The bounty upon flax is four-pence per stone weight, and three-pence upon hemp, at fourteen pounds weight to the stone; and sometimes by a successful crop, amounts to eighteen or twenty shillings per acre, which helps the grower very materially.

Amount

£ 35 7

is and additional
revisions.

Amount of bounty paid upon flax, from 1782 to 1792
inclusive.

Years.	Stones.	Amount.
		£. s. d.
1782	19500 at 4d	345 0 0
1783	20771	345 3 8
1784	44458	740 19 4
1785	7943	132 7 8
1786	28114	469 1 4
1787	43506	725 2 0
1788	13818	230 6 0
1789	38827	647 2 4
1790	40555	675 18 4
1791	5435	90 11 8
1792	38769	646 3 0
	<u>301726</u>	<u>£5028 15 4</u>

Which is 27,338 stone weight per Annum, amounting
to 457l. 3s. 2d. one year with another.

Amount of bounty paid upon hemp, from 1782 to 1792
inclusive.

Years.	Stones.	Amount.
		£. s. d.
1782	5911 at 3d.	73 17 9
1783	6271	78 7 9
1784	7439	92 19 9
1785	4754	59 8 6
1786	8658	108 4 6
1787	10556	131 19 0
1788	9645	120 11 3
1789	11245	140 11 3
1790	13750	171 17 6
1791	443	5 10 9
1792	7899	98 14 9
	<u>86571</u>	<u>£1082 2 9</u>

Which is 7870 stone weight per annum, amounting
to 81l. 7s. 6d. one year with another.

FAC

**FARM BUILDINGS and REPAIRS,
TIMBER and UNDERWOOD,**

WITH

OBSERVATIONS on PLANTING,

THE land owner in this county has an advantage over others elsewhere, in the small proportion of buildings, which seems necessary for the farmer's convenience, in managing his land. A small low built house of stone, and covered with slate, situate in a bottom. A barn for wheat, a small one for Lent grain or one barn with two floors, a stable, ox-house, cow-house and cart-house, constitute every necessary; indeed, in one instance only, they exceed the wants of other tenants, which is in a house for the dairy-man, but this is either carried on, in a part of the farm-house, or in a cottage set apart for that purpose, but as it too frequently happens, that the farmer rents more than one farm, he of course has an eligible accommodation for the dairy-man in his power. The farmer's usual method, is to stack his hay on the ground, where he is likely to fodder in the winter, and his corn on stone rick staddles, in a yard adjoining to the buildings. He is not extravagant in requiring useless or unnecessary ones, a few cottages are generally included in his bargain, which he lets out to his labourers, without any restraint on the part of the landlord, as to the rent to be taken, and oftentimes at an exorbitant price, which might be prevented by the owners interference, as the farmer should have no profit upon the cottager's rent, more than what may reimburse him for occasional repairs. All over the county, where the land is let at rack rent, the landlord finds rough materials, and the tenant does the repairs. The landlord

bs and additional
sations.

landlord pays the land tax, and the tenant all other taxes; and where the estate is let out on lease for lives, the tenants are mostly bound to keep buildings in repair, at their own expence. Tile or slate, one ton of which will do a square of a hundred feet, is to be had at eighteen shillings per ton; bricks from a guinea to twenty-five shillings per thousand; a very good sort of gutter brick, used for draining land, fourteen inches long, and three inches in diameter, worth one shilling and six-pence per dozen. Lime worth four-pence or five-pence per bushel; thatching done at two shillings per square, and all the straw, which is worth six-pence per sheaf, is drawn by hand for that purpose, at three shillings and six-pence per hundred sheaves. This is a most excellent custom, as it is cleared from weeds, and retains the straw in its original state; the hardness and roundness of the pipe is preserved, by not being suffered to be bruised by the flail, and renders it much more durable for thatching. Common building timber in general to be bought at the following prices.

	s.	d.
Oak, at	1	6 per foot.
Elm, at	0	9 ditto.
Ash, at	0	9 ditto.

And an average price for oak timber, including tops and bark, is three pounds ten shillings per load of forty feet.

Though this county is extremely barren, both in timber and wood, still there are many local spots, appropriated to the growth of underwood in several parts of it, such as Duncliff in the vale of Blackmoor, Honeycombe wood in the neighbourhood of Sherborne, and many others of similar nature. The soil is chiefly cold and wet, and the underwood cut at ten or twelve years growth, and produces about five or six pounds an acre for faggots. As to timber, I could wish I had it in my power to be able to describe from my own observation, a greater quantity than

I am able to do : about Lord Digby's at Sherborne Castle, Lord Ilchester's at Milbury, on that part of the vale of Blackmoor in Mr. Sturt's possession ; in the county about Batscombe, and a very few other spots, there is some very fine oak timber, but even in these places, the quantity is trifling, as a national consideration : and although many of the noblemen and gentlemen residing in the county have made plantations about their places of residence, with great taste and judgment, among which Mr. Portman's bank at Blandford, is a most beautiful object, still I cannot help considering them all upon a small scale, compared to what they ought to be, and what the country deserves. The Earl of Dorchester's at Milton, and Mr. Frampton's at Morton, are both considerable, and many other individuals have contributed to this great improvement ; nevertheless, there is hardly any part of England, I have ever seen, so much in want of this ornamental and useful improvement as the county of Dorset. If large tracts of the tops of the highest hills and poorest land, were inclosed and protected from game, and either sown with a mixture of all kinds of seeds of forest trees, or planted with seedlings, not above two years old, it would not fail to succeed, and must in a few years become beautiful to the eye, and profitable to the owner ; but most of the attempts of this kind I have seen, have been upon too small a scale, and no sooner has the westerly winds from the coast attacked them, than they become miserable and unthrifty ; and this too arises from their being planted from nurseries, and of too large a size. The soil on the tops of the hills is particularly well adapted to the growth of beech, and oak would not fail to grow, provided there was a sufficient mixture of firs to shelter them in their infancy.

The plantations I would wish to recommend, are such as those made in many parts of the county of Northumberland, where a bleak unthrifty hill, producing scarcely any vegetation, is

s and additional
variations.

capped by a plantation, covering at least eighty or one hundred acres in one inclosure, by which means the trees afford shelter for each other, and add ornament and profit to the whole country.

WATER MEADOWS.

THE flooding of meadow land, is another business, of great importance, in the agriculture of Dorsetshire. The proportion of water meadows is no where so great, or as where better managed; the early vegetation produced by flooding, is of such consequence to the Dorsetshire farmer, that without it, their present system of managing sheep would be almost annihilated. The process of carrying this business commences about Christmas, when all the meadows are laid up, after the grass has been fed down by cattle; the channels for conveying the water, and the hatches, are then put into complete repair. The water is then caught from a stream of the river, and thrown over the meadows from one channel to another, till the surface of the whole meadow has been covered in succession; this is repeated for several weeks together with such success, that by the middle of March, there is a sufficient supply of the best food for ewes and lambs. It is necessary for me here to observe, that in the making of these water meadows they are formed in wide beds, with channels for the water to run between; and the descent is so well taken care of, that the water is always in motion, and is never suffered to ferment or stagnate, which it would otherwise do, and thereby the meadow would lose all the effect given by the water, in the present mode of applying it; at the same time

time, great care is taken, to have a sufficient quantity of underground drains, to carry off the springs; and make sound any boggy parts, by which means, no sooner has the water passed over the meadow, the limited time wished for, but it becomes sufficiently dry to be grazed by the sheep. In these meadows, the ewes and lambs are continued to be grazed, from the time I have beforementioned, till about the first or second week in May, when they are again constantly watered for several weeks; and about the beginning of July are fit to mow, and produce from a ton and a half, to two tons and a half, per acre. Many farmers whom I consulted upon this produce agreed, that two tons to an acre, was not an exaggerated crop. When the hay is taken off, they are again watered till the beginning of September, by which time they become full of grass, and are the support of the dairy cows, which run over them and graze thereto till Christmas. Sheep are never turned into them in the autumn, as the effect of rotting them is considered inevitable.

No manure of any kind is ever put on these meadows; about towns they are let as high as fifty shillings, or three pounds, per acre, and with farms at about five and thirty shillings. They are attended after first making (which generally costs from four to six pounds per acre) with but a small expence, and very little trouble, in proportion to the vast profit and advantages to the farmer, who gains by them three full crops in the course of one year. The hay which is grown in these meadows, is not however much esteemed for the goodness of its quality for feeding beasts, and is therefore generally given to cows and sheep in the winter.

The rivers in Dorsetshire are particularly adapted, in many instances, to favour the process of flooding land, as they are divided frequently in their current, into many small streams, which are in general shallow, but quick and

ks and additional
variations.

rapid, by which means they are easily diverted, and greater proportion of land is enabled to be flooded in the manner before mentioned, than in those parts of England where a river runs through a country, buried below banks, in one dead stream only; and I believe I may fairly assert, that the greatest part of the best water meadow land, which is now rented at the average price I have before stated, would not be worth in its natural state, and without this improvement, more than ten or twelve shillings per acre.

The process of watering meadows, with drawings of the best modes practised, in the county, has been very ably described and treated on, in a very ingenious publication by Mr George Boswell, of Piddletown, in Dorsetshire and to all persons, who are inclined to attempt an improvement of this nature, this treatise, will be well worthy their attention. I cannot help remarking it here, for Mr Boswell's credit, that I found him (who is a native Norfolk) making use of Norfolk Ploughs, drawn by two horses; his turnips excellent, and his system of tillage carrying on with the greatest success, upon the principle I have before ventured to recommend on that head, which is a proof of the practicability of the improvement I could wish to enforce throughout the county.

Though the Dorset farmer, manages the water meadows with the success I have before described, there is another mode of watering land, which is scarcely known in this county, and which is practiced with the greatest success, all over Herefordshire, and many hilly parts of the kingdom; which is by conveying the water from a spring, on the side of a hill, by catching the land flood in a wet season, from the wash of the hill or bank, and throwing it over a piece of pasture land upon the slope of a hill, or by the wash from the road being caught; and whenever the situation will admit, they never fail to catch the soak of the farm-yard, and throw it over the adjoining

adjoining piece of pasture land ; and I have no doubt, but this might be done to advantage in Dorsetshire, by throwing the water from springs or high ground, over the ewe leas, or many of the upland pastures.

It may be argued by some, that the water from a cold spring on the top of a hill, can be of little service to vegetation, but from practice and experience I am convinced, that land may be doubled in value, more easily by this means, than any other, and the expence of doing it, where it is practicable, is in general but trifling.

MANUFACTURES.

AMONG various others of great import to the community, in the county of Dorset, the principal one, is in the manufactory of flax and hemp, in the neighbourhood of Bridport and Bemminster ; where all sorts of twine, string, packthread, netting, cordage, and ropes are made, from the finest thread used by saddlers, in lieu of silk, to the cable which holds the first rate man of war. The nets made for the fishery at Newfoundland, as well as for home use ; and the sails for shipping of every kind, is manufactured of the best quality, as well as sacking for hammocks, &c. and all kinds of bags and tarpaulin ; and in addition to the great quantity of flax and hemp used here, not more than one third of it is allowed by the manufacturers to be of British growth ; the remaining two-thirds of it, is imported from Russia and America, as raw materials.

This manufactory is carried on at Bemminster ; chiefly under the direction of Messrs. Cox and Co. who employ upwards of six hundred people in this business, and in and about the environs of Bemminster, there are upwards of two thou-

**2nd additional
relations.**

and people, employed by them and others. At Bridport there are a great number of manufactures ; and about eight hundred people are said to be employed in this town, and in its environs, as far as seven or eight miles round ; upward of seven thousand people are in constant work.

This manufactory is a great support for poor people after pressing and beating in a mill for that purpose, combing and cleaning, it affords employment, in its process of spinning, to women and children, who are paid at the rate of two-pence per pound ; they can spin about four pounds in a day, amounting to eight-pence for daily earnings ; besides which, the manufacturer pays two or three pence per day, to a child to turn the wheel ; it is then twisted, cleaned, and softened for the weaver.

The sail-cloth is made in pieces of about forty yards each yard-wide, and worth from fifteen to seventeen-pence per yard. Sacks for grain and flour are also made here, at those without a seam, to hold each four bushels, nine gallons measure, at thirty-seven shillings per dozen.

A manufactory of this kind, upon a very small scale is carried on in the Isle of Purbeck, near a village called Kingston, and which I understood is under the patronage of Morton Pitt, Esq. of Encombe, one of the members of the county, for the employment of the neighbouring poor, and at Poole there is another manufactory of this kind, but upon a very small scale.

It is said that this trade has of late years rather fallen off on account of America having manufactured their own growth of flax and hemp, instead of taking their supplies from Great Britain ; but in the present state of it, I do not find the poor-rates have lately increased, or even to exceed at present more than two shillings in the pound on an average. The appearance of the town of Bridport, bespeaks prosperity by the great improvements made in the buildings within the last twenty years ; and this manufactory bei-

so extremely necessary to the trade and commerce of this glorious country, is so important to the whole navy at large, it must be the wish of every Englishman, to see it flourishing to its fullest extent, both as to the quality and quantity of the article manufactured.

It may not be improper to remark in this place, the great consequence of the growth of flax and hemp, which accrues from its cultivation, by referring to what has been already said under the head of its growth and management, and where it is pointed out, to what considerable advantages, the seed only is appropriated, both in the produce of oil for painters, and food for cattle.

Another manufactory is carried on at Shaftesbury, which is the making of all kinds of shirt buttons ; and upwards of four thousand women and children are employed in and about this town ; the most inferior sorts of which, are made at the low price of five-pence per gross of twelve dozen, the labourer finding the thread. This manufactory is chiefly under the direction of Mr. Atchinson ; and at Blandford, upwards of three thousand women and children are employed in a like manufactory, under the direction of Messrs. Fisher and Co. and several others. This is also another instance of the advantageous growth of flax and hemp in this county.

A third manufactory in the neighbourhood of Shaftesbury, is a kind of flannel, called swanskin, or coarse white woollen cloth, used for soldiers cloathing, and made from eighteen pence to two shillings per yard ; but this is of little consequence at Shaftesbury, the chief trade in this article being carried on at Sherminster, where about twelve hundred people are employed in it, and where between four and five thousand pieces, containing thirty-five yards in length in a piece, yard wide, are annually made.

At Stalbridge there is a manufactory for spinning silk, in which about one hundred and fifty women and children are employed.

**3 and additional
nations.**

At Sherborne, there is another of the same kind upon a larger scale, for twisting and making up raw silk into skeins, in which about eight hundred women and children are employed, under the direction of Messrs. Wilmer and Co. but this manufactory is said to decline, and the number of people employed in it, to have been considerably lessened of late years.

The oil mill at Lyme, under the direction of Mr. Dawson, and the produce of hemp and flax, before stated from the office of the clerk of the peace, makes it needless for me to say more on this subject here.

At Winborne there is a manufactory of worsted stockings, in which upwards of one thousand women and children are employed in knitting, who earn from one shilling to eighteen pence for labour; the cost of the worsted being about two-pence or two-pence-halfpenny per ounce, and eight ounces to each pair of stockings; which when manufactured, are worth from three shillings and sixpence to four shillings per pair; and from the time necessarily occupied in the manufacturing of this article, there seem but very low wages accruing to the labourer.

MINES and QUARRIES.

THREE are no ores of any kind found in this county nor are there any mines of coal; the supply in this article is either from Newcastle to its ports, where they cost from two pounds fourteen shillings to three pounds per chaldron, of thirty-six bushels; or from Wales, which cost about thirty-two shillings per ton weight. The proportion between the Newcastle and the Welch coals, is as thirteen and a half bushels of the former, to one ton of the latter.

As to quarries, the whole island of Portland seems to be one intire mass of the most beautiful stone, chiefly used in the metropolis and elsewhere for the most superb buildings, and is universally admired for its close texture and durability, surpassing any other. The raising of it, is a laborious business, sometimes employing upwards of a hundred men, to break down a large jam of it, afterwards it is divided into blocks, and then conveyed in cars by horses to the shore. One shilling per ton is paid to the owner of the land, for breaking ground, six shillings per ton is paid to the workmen, for raising and quartering it, and the price of carriage to the shores varies as to distance, from sixpence to half a crown per ton. Fourteen shillings per ton in time of war, and ten shillings in time of peace, is paid for freightage to London. Some of these stones weigh four, and some five ton each ; but the general estimate is, that an hundred blocks will weigh eighty tons.

There are many proprietors of quarries in the island, but those called the King's quarries, which belong to the crown, are by far the most considerable; from thirty to forty thousand tons of this stone, are annually shipped off from the island.

The quarries in the island of Purbeck, are found in the parishes of Sandwich (called Swannage) Langston and Worthe, near the sea, where upwards of four hundred people are employed in digging and tooling the stone which is raised here from pits, some twenty others forty feet deep ; they are not open to the top, but are undermined and underbuilt ; it is excellent stone for walling, floors, steps, and in particular for foot pavement for towns, for tomb-stones, troughs, and feet and caps for rick staddles. Another sort of stone is here found and used for pitching streets, and some of the thin stones on the tops of these quarries are used for covering of buildings : about fifty thousand tons are annually shipped at Swannage, and the men employed in raising and

es and additional
rations.

tooling the stone, earn about half a crown per day in summer, and two shillings in winter. This stone is said to be more hard and durable than any other in the kingdom, and what is called the best Purbeck Portland block, is delivered in the vessels at twelve shillings per ton; the price of the stone for foot pavements is twenty-four shillings per hundred square feet delivered at Swannage, and the price of freightage to London, is eight shillings and sixpence per ton in time of war, and six shillings and sixpence in peace; the price of pitching stone for streets is five shillings per ton from the pit; it is estimated that two hundred stones are a ton's weight, and that they will pave a square of a hundred feet. The feet and caps for rick staddles, are worth about three shillings and six pence, or a set of nine delivered at Sandwich of the best sort, at thirty six shillings per set; but there is an inferior sort not tooled which is worth only one guinea a set. The tiling stone is worth at the quarry five shillings and four pence per ton, and delivered at Sandwich at eight shillings; this stone is sometimes burnt into lime, which is said to be of the best quality, and preferred by plasterers, to any other in the kingdom, and is sold at seven pence per bushel, or fourteen pence per hundred weight. There is a ground rent, paid to the owners of the land, in nearly the following proportions:

s.	d.
o	6 per ton for front walling.
o	3 - for scalp back.
o	2 - for rough ditto
2	o per hundred feet of ashlar.
2	o - feet of steps.
1	o - for pavements.
1	o for a set of rick staddles.

And all smaller kinds of stone in proportion; in short, about six-pence per ton for all sorts of stone raised here.

There is another quarry at Long Burton, near the vale of Blackmoor, from which some small quantity of stone is taken, that will bear a polish, and in some measure resembles the Derbyshire marble; and is much used for chimney pieces in this county, but no exportation of it is made.

On Norden and Burshen Heath, about a mile distant from the borough of Cerse Castle, is found large quantities of pipe clay, which is in great estimation, and absolutely necessary for the use of the potters in Staffordshire and other places. About eleven thousand tons are annually sent from this place for that purpose, and about one hundred men are constantly employed in digging it. Some of the pits are not more than ten or twelve feet deep. The mode of digging it, is to cut it with a thin spade, whilst in a soft state, in square pieces, which is forked up by another person, to the conveyance for carrying it off. It is of a white colour when first dug out, and dries to a hard substance of rather a blue cast.

The ground where the pipe-clay is dug, is on the surface extremely poor and barren, and although the clay has the appearance of being a most excellent manure, I find that it has been tried without success, as it is supposed to contain some acid matter, which is highly detrimental to vegetation.

COMMONS and WASTE LANDS.

OF the commons in Dorsetshire, the greater part of them, in the inclosed country are flinted, one horse or two beasts to a leas; the horse leas, is estimated worth thirty shillings, and half that sum for a beast. The land in general over-run with

and additional
notes.

furze and ant-hills, does not in its present state, return more than seven or eight shillings per acre; but most of them highly proper to cultivate, and if converted would be worth eighteen or twenty shillings an acre, as lime for manure is so easily obtained.

The greatest proportion and extent of waste lands in the county, is in its south eastern part, from below Bere-Regis; southwards towards Lulworth and the sea, extending all the way to Corfe Castle, Wareham and Poole, from thence towards Christ-Church, in Hampshire, and within a small distance of Winborne Minster, the greater part of which, except a few cultivated parishes which intersected it, is in its present state a most dreary waste, and almost the only advantage derived from it at this time, is the support in summer of a few ordinary cattle and sheep, and the heath, which is pared up by the surrounding villages for fuel.

The towns of Wareham and Poole, which are situated most contiguous to this uncultivated country, are of considerable consequence, and the latter is by much the greatest port in the county, and where at least two hundred sail of shipping are said to belong; and an extensive trade is carried on to Newfoundland, which imports above two thousand tons of seal oil annually, besides one thousand tons of train oil.

There is but one road into the town of Poole, and from the large space the tide flows over adjoining to it, the property about it, is so curtailed and surrounded, that land seems wanting for the necessary convenience of the inhabitants.

A material improvement struck me during my short visit there, which might I think be made, by throwing a drawbridge over, to the opposite neck of land, and making a quay all the way along, directly opposite to the town; this idea brought to my remembrance the situation of the port of Yarmouth in Norfolk, where, on the Suffolk side of

the Haven, which now belongs to Mr. Anson, Member for Litchfield; and which twenty-five years ago was rented by butchers at thirty shillings an acre, has been, by Mr. Kent, agent to the estate, divided into small parcels, and let on building leases, and is now become a perfect quay, and covered with buildings and stores of all kinds. At first sight, the borough of Great Yarmouth, viewed this creation with a jealous eye; but the advantages accruing to them in point of convenience to their trade, have been so great, that there is scarcely a merchant of eminence residing there, at this time, who does not hold a part of this land, and is anxious to lay out his money in buildings for the accommodation of his merchandize; this has been a wonderful improvement to the owner of the fee, as it has increased his income, from the price paid beforementioned, to seven pounds an acre, and has afforded a real convenience to the trade of the town; and I have never seen any place more capable of improvement, than the ground before described.

In passing over this part of this county, the soil is extremely barren, and will certainly require long time and trouble, besides great expence, to get into a state of cultivation; but upon those small spots which have been inclosed and seem like encroachments from it, although in the hands of very poor people, it points out how very capable the whole is of improvement; and I am persuaded, that if the property in the vicinity of Poole, which abounds with inhabitants, of great opulence and respectability, were to be parcelled out, and let in small lots upon long leases, it would soon wear a face of cultivation, highly deserving their attention, and would in a few years be trebled in value, instead of being at present a mere blank, and producing no real benefit to its neighbourhood, or the community at large.

GENERAL.

is and additional
various.

GENERAL OBSERVATIONS.

VER Y few parishes in this county, have of late years been inclosed, there are some however, between Wimborne Minster and Blandford, and in the vale of Blackmoor, which are said to answer extremely well, and to have much increased the value of the property therein ; but there are no estates in the county which have increased in value, so much as those about towns and villages upon the coast, which are resorted to annually by visitors for the purpose of bathing in these places, such as Lyme, Weymouth, &c. houses have been doubled, and in many instances trebled, in value ; in the last twenty years, not fewer than three hundred persons on an average are said to visit the former place every summer and four or five times that number the latter, which greatly increases the value of the land round these places.

Provisions however are plentiful, and besides a great abundance of most excellent fish, the markets are supplied in most parts of the county with beef at four-pence per pound mutton at four-pence halfpenny ; chickens at fifteen pence per couple ; geese half a crown each, and turkeys at three shillings and six-pence each.

Fro

For remarks &
observa

From the best intelligence I have been able to collect in my tour through the county, the following state of population is as near the truth, as could be deduced from the information I have collected, (viz.)

At Shaftesbury	-	-	3000
Bialbridge	-	-	1800
Sturminster	-	-	2000
Gillingham	-	-	1500
Sherborne	-	-	4000
Cerne	-	-	1000
Maiden Newton	-	-	600
Evershot	-	-	600
Bemminster	-	-	2000
Lyme	-	-	2000
Charmouth	-	-	600
Bridport	-	-	2500
Abbotsbury	-	-	300
Weymouth	-	-	4000
Isle of Portland	-	-	2000
Dorchester	-	-	2000
Piddletown	-	-	1000
Bere Regis	-	-	600
Wareham	-	-	1500
Sandwich	-	-	1200
Corfe Castle	-	-	800
Poole	-	-	7000
Winborne	-	-	2500
Blandford	-	-	3000
Cranborne	-	-	1000
Villages, &c.	-	-	40500
			<hr/>
			89,000

The

**3 and additional
stations.**

The produce of the county may be thus estimated & 250,000 acres, supposed to be in tillage are divided annually nearly as follows:

35,000 acres of wheat, at 18 bushels to an acre,	78,750 quarters
75,000 ditto barley, at 30 ditto	281,250 ditto.
50,000 ditto beans, pease, oats and vetches, at 30 ditto,	167,500 ditto.
36,000 ditto fallow and turnips.	
53,000 ditto clover, lay and sainfoin, at 1 ton ditto,	53,000 tons.
1000 ditto flax and hemp, producing	25,208 stone
Butter 1750 tons, and	
Cheese 1000 ditto.	

Together with fat cattle and horses, in both of which the returns are not very considerable.

Besides which calculation, ought to be mentioned, the amount of corn and grain received at the ports from other counties; and it is supposed, that upwards of 3000 quarters of flour are annually imported at Lyme and Bridport from the Isle of Wight; upwards of 2000 quarters at Weymouth, and about 3000 quarters at Poole. About 20,000 quarters of barley are supposed to be exported from the different ports annually.

The preceding information respecting the County of Dorset, has been collected by me, partly from twenty years experience in the cultivation and management of landed property in that county, as well as in most parts of England; and by a tour made through it, on purpose, in the course of the month of September last, in which I endeavoured to collect all the intelligence I possibly could, from many gentlemen and farmers, who assisted me with their best information, and to whom I am obliged for their service and assistance in this business, and shall not fail to state their names to The Board of Agriculture whenever opportunity offers.

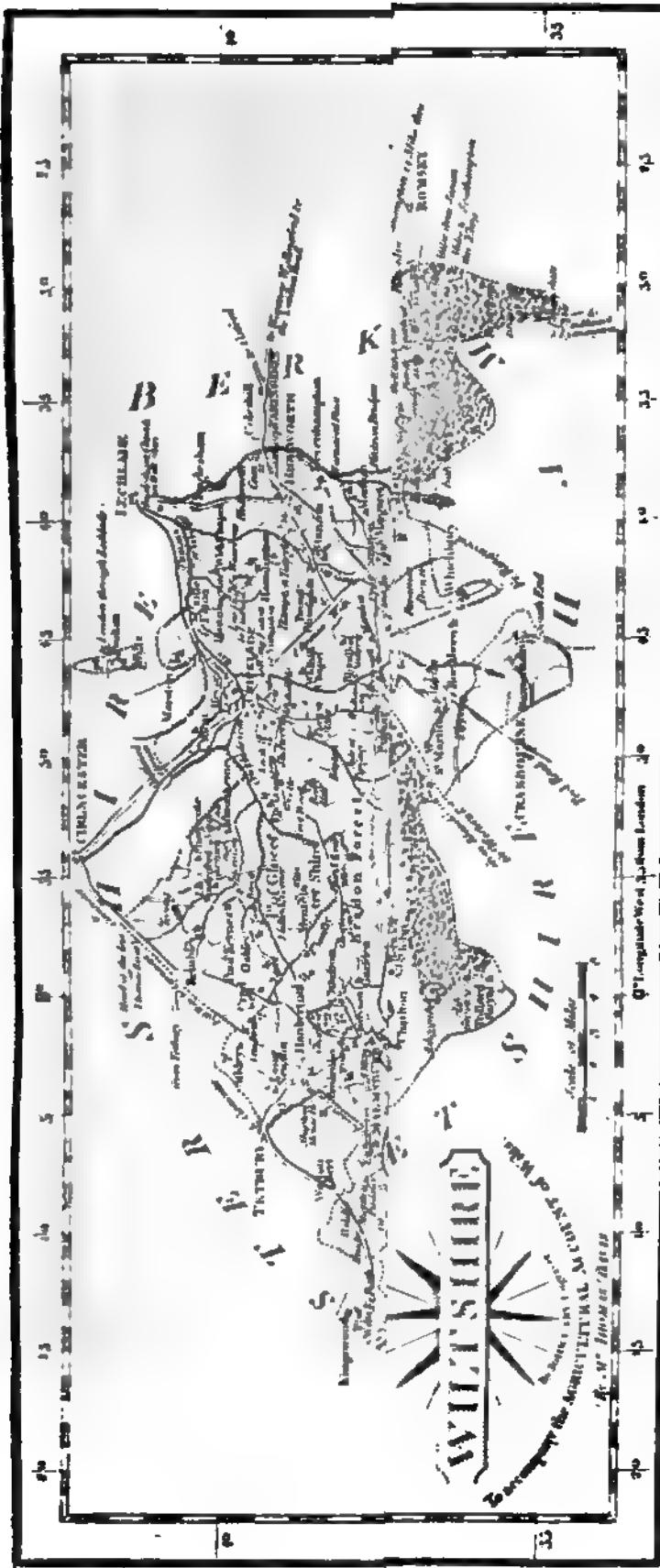
I consider the great outlines for improvement in Dorsetshire to consist, in the introduction of the Norfolk husbandry, which is certainly the most productive of any arable district in the kingdom—the separation of tenures—the cultivation of waste land, and the ornamenting of it by plantations: and, I trust, under so valuable a patronage as that which it will now have, a spirit of improvement will be excited, equal to its natural resources; and if in the preceding representation, I have pointed out any idea, which may lead to its advantage and prosperity, I shall think my labour amply compensated. The Board of Agriculture, at any rate, will not be put to any expence, on account of these observations.

JOHN CLARIDGE.

24th DECEMBER, 1793.



G E N E R A L V I
OF THE
A G R I C U L T
OF THE COUNTY OF
W I L T



Map of the county of Wiltshire, showing the boundaries and principal towns and villages. The scale is given in miles and kilometers.



GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
WILTSH.

WITH OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT

Gt. Brit
DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE
AND INTERNAL IMPROVEMENT,

BY THOMAS DAVIS,
of LONGLEAT, Wilts,

STEWARD TO THE MOST NOBLE THE MARQUESS OF BATH.

LONDON:

PRINTED IN THE YEAR 1794.

S 455
A 2
v. 1.
no. 2

A D V E R T I S E M E N T.

THE following valuable communication, respecting the state of Husbandry in the county of WILTS, and the means of improvement, drawn up for the consideration of the Board of Agriculture, is now printed, merely for the purpose of its being circulated there, in order that every person, interested in the welfare of that county, may have it in his power to examine it fully before it is published. It is therefore requested, that any remark, or additional observation, which may occur to the reader on the perusal of the following sheets, *may be written on the margin*, and transmitted to the Board of Agriculture, at its office in London, whom the same shall be properly attended to; and, when these returns are completed, an account will be drawn up of the state of Agriculture in WILTS, from the information thus accumulated, which, it is believed, will be found greatly superior, to any thus far of the kind, ever yet made public.

The Board has adopted the same plan, in regard to all other counties in the united kingdom; and, it is hardly necessary to add, will be happy to give every assistance in its power, to any son who may be desirous of improving his breed of cattle, &c. &c. or of trying any useful experiment in husbandry.

To the READER.

*IT is requested, that this Paper may be
sent to the Board of Agriculture, before the first of March next.*

*It is hardly necessary to add, that the Board does
itself responsible, for any fact or observation contained in
the reports; which at present are printed and circulated, for
merely of procuring additional information, and of enabling
one, to contribute his mite to the improvement of the Country.*

JANUARY, 1794.

INTRODUCTION.

IN an Agricultural Survey of a county or district, the great objects of enquiry seem to be two; viz.

1st. Whether the land be applied to its proper use;
and,

2dly. Whether that application be properly conducted.

And as a clue to this enquiry, the following observations, though trite, are worthy of consideration.

The agricultural pursuits of the inhabitants of every county or district, are directed, *in the first place*, to supply their *own* wants, and *next*, to enable themselves to *purchase* those necessaries they cannot raise, by *a sale* of those of which they have a surplus.

The natural soil and climate of a country, and its peculiar aptitude to particular productions, may give the *first turn* to a choice in agriculture; but there must be a constant and regular demand for the *surplus* of those productions, to give that spirit and energy which is necessary to bring the art of raising them to perfection. And as the difference in the *price* of the necessities of life arises chiefly from the expence of carrying them from the place of their *production*, to the place of their *consumption*, those countries will have the advantage in the sale of such commodities, who are *nearest* to the place of their consumption.

In five words, "Good markets make good farmers."

How far the landholders of the county of *Wiltshire*, have availed themselves of the advantages that nature and situa-

tion have given them, and in what instances room for improvement, is the great object of survey. And to ascertain this, it will be necessary to enumerate the several articles to which the agricultural county is at this time principally directed.

Wiltshire, as being partly a corn and pasture county, is capable of producing most of the articles of human sustenance; and being in general a cultivated district, its produce is considerably in excess of consumption. Its situation is well calculated for its surplus, or, perhaps, in other words, the *advantage of that situation, has enabled it to dispose of, and to bear the rank it occupies on the agricultural scale of the kingdom.*

Principal Produce of Wiltshire.

The principal productions of the county, serving immediately for human food, are,

- Corn—chiefly wheat and barley.
- Cheese and butter.
- Fat calves.
- Fat cattle and sheep.
- Fat pigs.

The manufacturing towns within the county, the eastern part of Somersetshire, and the cities of Bristol, furnish a constant regular demand for the productions, and London takes no inconsiderable part in their sale.

To these articles serving immediately for human food, may be added one that serves eventual purpose; viz.

“Sheep for store;”
of which great numbers breed in this county, yearly, to be fattened elsewhere, chiefly in the east, for the London market.

And to these productions of human food, may be added a very material article of human necessity, viz. "Wool," of which the vast quantity that is raised here, finds a never-failing demand in its own manufactories, and those of the adjoining counties.

These enumerated articles, being the principal objects to which the attention of the landholders is at present directed, the great purpose of this enquiry into the state of agriculture in the county of Wilts, is—*First*, To ascertain whether the production of those articles is peculiarly adapted to the several soils and situations of the county; and, *next*, Whether the methods employed in that production, are the most proper for their respective purposes; and not only to point out such *errors* as may appear to be either in the application or management of the land or stock of the county, but also to remark wherein the *excellence of the present system* consists, and in what instances it is worthy of imitation in other counties or districts. And the Board of Agriculture having very properly reduced the enquiries necessary to ascertain these facts, into the shape of queries; the result of those enquiries which have been so made, is digested into answers in the order of those queries, in so far as the state of the district under consideration would admit of.

These answers will be deduced not only from the observation of the compiler during the present survey, but also from the practice and opinions of the most experienced farmers in the county of Wiltshire, collected during a long and extensive intercourse with them; and will, it is hoped, comprise a full and just account of the present state of husbandry in the county, with candid and unbiased remarks on its merits and demerits.

The author is well aware, that notwithstanding he has taken the liberty of altering the arrangement of the queries proposed by the Board, so as to suit the particular circumstances of the county, and avoid repetition as much as possible, he has still found it necessary, in some instances, to use the same arguments *more than once*, in order to give full

and

and satisfactory answers to each query; and on he hopes he shall stand excused.

The hasty manner in which this account was drawn up, (which is of less consequence, as the poses to have it well revised and corrected before published) must apologize for numberless tautologies, and omissions, which have unavoidably escaped.

General Description of the County.

THE county of Wilts is in shape approach having its tranverse or longest diameter nearly south.

It is about 54 miles in length, and 34 in greate and contains about 1,372 square miles, or 878.

There is a very striking difference in the appearance of the south-east and north-west side of the county, the former being composed of a broad chalk hills, which enter the county from Berks-shire, and Dorsetshire, and terminate in an irregular bold breaks and disjointed masses, running from east to the south-west side of the county; and the latter being chiefly composed of a rich tract of vale land, extending north-east and south-west through the county, the foot of those hills, but rising gradually northward joins the high lands of Gloucestershire.

Divisions.

In speaking of this county, it is usual to divide it into two districts, viz. "South Wiltshire," and "North Wiltshire;" and the division is generally made by supposing an east and west line passing through the county at or near Devizes, thereby leaving the "Hills and Downs in North Wiltshire;" but in treating of the county "agriculturally," it will make a more natural division to draw an irregular line round the foot of the chalk hills.

their entrance into the north-east part of the county from Berkshire, to their south-west termination at Maiden Bradley, thereby comprehending the whole of *Wiltshire Downs*, with their intersecting vallies and surrounding verges, under the name of "*Souib Wiltshire*," or, perhaps, more properly speaking, "*South-east Wiltshire*," and calling the residue of the county "*North Wiltshire*," or more properly "*North-west Wiltshire*."

The natural appearance, as well as the agricultural application of the two parts of the county, well warrant this division into south-east and north-west Wiltshire, the first comprehending the chalk hills, usually called Wiltshire Downs, whose general application is to corn-husbandry and sheep-walks; and the latter being remarkable for its rich pasture land on the banks of the Lower Avon and the Thames, so famous for the feeding of cattle, and still more so, for the production of one of the most excellent kinds of cheese this island can boast.

As the difference in the soil, situation, and productions of the two districts is so very great, it will be necessary, after premising some general remarks on the whole county with respect to its property, to treat of them as two distinct and separate districts, at least so far as the queries proposed relate more peculiarly to either district separately, and then to subjoin the answers to those questions which relate generally to the whole county.

The answer to the 1st head, viz. "The soil and climate," will fall more properly under enquiry, when the two districts come to be spoken of separately.

But the answer to the second, viz. "The property of the land," will be best understood as applied to the county at large, and is therefore given here in a short summary, reserving the detail to be given in the description of each district.

General

General State of Property.

The greater part of this county was for no very remote period, in the hands of great lords. Almost every manor had its resident lord, who held of the lands in demesne, and granted out copy or lease to under-tenants, usually for tenuable. A state of commonage, and of open common fields, was peculiarly favourable to this tenure.

Inclosures naturally tend to its extinction.

The north-west part of Wiltshire being adapted to inclosures, and to subdivision of land, the south, was inclosed first; while the south-district, for many reasons that will hereafter be given, underwent few inclosures, and still fewer subdivisions during the same period that a great deal of land in the former district has been divided and sold, and gone into the hands of the many; property in the south-district has been bought up by the great landholders, and is now in fewer hands than it was in the last century.

There are undoubtedly many exceptions to this remark; and there is in both districts a great amount of property in mortmain, belonging to churches, colleges, and other pious and public foundations, which remains in its original state; but, generally speaking, it will be found, that a great part of the north-west county, is possessed by small proprietors, and the greatest part of the south-east district, is of great landholders.

Reasons will hereafter be adduced to show why this difference is the natural effect of a number of causes immediately resulting from the relative difference in the nature of the soil, and situation of the two districts, which effect must have been, and undoubtedly produced in all parts of the kingdom where such districts exist.

I. SOUTH-EAST DISTRICT.

THE district usually called South Wiltshire, but more properly South-east Wiltshire, comprehending that part of the county called Wiltshire Downs, is divided into two principal subdivisions, called Salisbury Plain and Marlborough Downs, and contains in all about 780 square miles, or nearly 500,000 acres.

The distant appearance of the whole, is that of a large elevated plain, but the surface is broken into numberless inequalities, and intersected by several deep vallies, formed by brooks or rivulets chiefly rising within this district, and on which the villages, with very few exceptions, are situated.

The greatest part of the springs which rise in the part called Salisbury Plain, run southward or eastward, and joining at or near Salisbury, near the south-east corner of the county, make the river called the Wiltshire or Upper Avon. Those which rise in the part called Marlborough Downs, join near Marlborough, and make the river called the Kennett, which leaves the county at Hungerford, after receiving the streams which rise in the Bedwin Vale.

Soil. The soil of this district, though various, is in a certain degree uniform. The hills are chalk, with its usual accompaniment of flint. The land on the sides of the hills, from which the flints have been washed, is usually a chalky loam, or rather a dissolved chalk, (provincially called white land) the flatter parts are generally a flinty loam, and the center of the vallies, next the rivulets, is usually a bed of broken flints, covered with the black earth washed from the hills above; and in some of these, there are veins of peat, formed by the black earth without any mixture of flints. And it necessarily follows, that those parts near the source of the rivulets where the hills are the steepest,

C

abound

abound mostly with the white-land soil, and those near the junction of the rivulets, where the country is of course flattest, abound mostly with the flinty loam. The sides of the hills which have been the most washed, are the thinnest and weakest soil, and the level tops, which have been very little washed, or not washed at all, frequently the deepest and strongest.

But there are some very singular sand veins, running through a large portion of this district, which deserve particular notice. One very narrow, but very fertile vein enters the county at Mere, on the borders of Dorsetshire, and takes a north and north-east direction round the outside edge of the Downs, keeping nearly close to their foot, by way of Maiden Bradley, Warminster, Westbury, and Lavington, towards Devizes, where it meets and unites with a much wider and still more fertile vein, coming down the Pewsey Vale from Burbage.

Another vein also enters the county from Dorsetshire, being the continuation of the sand-hill on which Shaftsbury stands, and passes through Donhead, Ansty, Swallowcliffe, Fovant, &c. under the foot of the Down, till it is stopped by the high ground in Burcomb Field. This vein is also met by another branch, or rather a ridge of sand-hills, coming from West Knoyle by Stop Beacon and Ridge, and joining the last-mentioned branch at or near Fovant.

There are some instances of strong clays and clayey loams on the skirts of this district, but as they make no part of the corn and sheep division of the county; and the quantity of this land is small, and its management is the same as that practised in similar soils in North Wiltshire, it will be needless to say more of it here.

These soils, with all their consequent mixtures and variations, may be said to constitute the far greater part of this district.

Climate. The climate of Wiltshire Downs, is so well known for its coldness and keenness, as to be almost proverbial.

verbial. The height of the hills, and their exposure to the south-west wind, from the Bristol and British Channels; the want of inclosures in the vallies, and the draught of air that necessarily follows the rivers, undoubtedly contribute to make this district healthy both for men and cattle; but the length of the winters consequent to such a situation, is certainly unfavourable to many of the purposes of agriculture.

STATE OF PROPERTY.

It has been already remarked, that this district is at present chiefly possessed by great proprietors, and that it was at one time in more hands than it is at present. But it is equally clear, not only from history, but from an examination into the nature of its subdivisions, that it was originally in much fewer hands than it is now.

The regular division of the manors in this district, shews that a great number of them were originally in one hand, and that their disposition was a matter of choice, and not of necessity or accident. The vallies of this district, are (almost without an exception) intersected longitudinally by rivulets. The sides of these rivulets, being the most eligible situation for building, became of course crowded with houses as much as possible. These vallies, with their accompanying rivulets, (provincially called bourns) are frequently from three to five miles apart, and hills intervene between bourn and bourn. The shape of manors, therefore, necessarily became a narrow oblong. It was necessary that each manor should have water, should have meadow ground, and should have wood for fuel (pit-coal being very little, if at all in use at that time). The proper situation of the meadow ground, was always

near the river; for the wood, usually on the hills, the greatest part of them being covered with it, and many of them are still so.

The natural division of the manors of this therefore into long narrow strips from river a right to the use of both; and as the disposal the greatest part of the district is in this way, such disposition, was the work of accommodation the original grantors or superior lords, to the inferior holders: and as a further proof that there are numerous instances in this district, of meadow, or of wood, was supplied by a great necessary articles, taken out of other manors of several miles from the manor to which annexed.

The influx of trade and commerce, and consequent money, has tended to the division of property, increase of the number of small freeholders in the kingdom. Lords of manors who were in possession of their property, found they could make by parcelling it out in small lots, than by selling the manors. But this has been chiefly the case within the neighbourhood of great towns, and where it could be applied to pasture.

In this district it has been otherwise; the absence of great towns in the south-east part of Wiltshire, difficulty of raising quick fences in high and dry situations; the inaptitude of the land to turn sheep, and, above all, the indivisibility of the manors by their awkward shape, and the detached situation of several pieces composing each estate; the difficulty of getting rid of the common rights over the course of the river, the impossibility of making much improvement in their value, seem to be the principal reasons why manors have been dismembered, and sold off to small freeholders.

The residence of so many of the principal land owners in the county, on account of its reputed good air, and its eligibility for sporting, has also contributed in a great degree to prevent any great dismemberment of property.

STATE OF FARMS.

IN the answer to the former head, it was remarked, how few alterations, the ancient common-field system of husbandry, had undergone in this district.

The introduction of the common-field husbandry, seems to have been very slow and progressive. The dispersed situation and smallness of the pieces of the common-field lands now in cultivation, evidently shew that the occupiers began with tilling a single acre (viz. one day's work for a plough), or perhaps only half an acre, each, and that as a want of corn increased, they gradually increased their cultivation, until they had cultivated all that was most proper for that purpose, still leaving those parts which were *less fit for the plough, or most distant from home,* in a constant state of commonage, but by mutual agreement keeping the cattle out of cultivated parts till after harvest.

This was the origin of common fields.

By the same kind of mutual agreement, they shut up, and in some cases inclosed, such parts of their *common pastures* which were most proper to mow for hay, dividing them into certain specific quantities, either by land-marks, or by lot, *for mowing*, and suffering the common herd of cattle to feed them again as soon as the hay was carried off, till it was time to lay them up for a new crop.

This was the origin of common meadows.

And these mutual agreements, originally founded in necessity, became, when approved by the lords, and observed for a length of time by the tenants, what are called "Custom of Manors," constituting the very essence of the Court Baron or Manorial Court; by which both lord and.

and tenants were, and are still bound; and of which, though the lord or his steward is the *judge*, the tenants are the *jury*, the custom of the manor equally binding both.

The reasons why so little alteration has taken place in the property of the lands in this district, has been already given, so far as it relates to the land-owners: but there must have been some reasons on the part of the occupiers, why, notwithstanding such great improvements have been made in other parts of the kingdom, by the abolition of common-field husbandry (or as it is called in Wiltshire “Tenantry”), and bringing the dispersed properties of each person into fewer pieces, freed from all rights of commonage, (or as it is called in Wiltshire, putting the lands in “Severalty”) so few alterations of that kind have taken place in a district abounding with intelligent, well-informed farmers, deserve particular consideration. For it is a fact, that though the modern improvements in husbandry cannot be adopted *to any extent*, in lands lying in a state of tenantry, yet a full half of the manors of this district are still subject, either wholly or in part, to the same absurd customs of commonage, as they were two hundred years ago.

These reasons will appear from the answer to the third head of inquiry: “*The manner in which the land is occupied?*” or perhaps better from a consolidation thereof with the fourth:

The present Distribution of the Lands in this District may, in general, be divided into Two Kinds:

1st. The farms in *severalty* (or those not subject to rights of common). These are in general from 100*l.* to 300*l.* per annum: in some instances lower than 100*l.* but few so high as 400*l.*

2nd. The tenantry yard-lands (or customary tene-ments) which are still subject to rights of com-mon. These are in general from 18*l.* to 25*l.* per annum; some as high as 40*l.* per annum; great,

great numbers of which are still occupied singly, although consolidations of them are every day taking place.

Ancient Distribution of the District.

The ancient distribution of the greatest part of this district was in the following way:

In general, there was in each manor *one* great farm called the Lord's Farm, which usually had its lands in severalty, and distinct from the tenants.

The rest of the manor called the Tenantry Part was divided into small copyhold tenements or farms, called "Yard-Lands;" each of which was originally *nearly* of equal value, and enjoyed *equal rights* of commonage.

These tenants sent their sheep to one common flock, where they were kept by a common shepherd, and their cows and plough oxen to a common herd, where they were kept by a common herdsman.

As the necessity of a common sheep-flock still continues for the sake of manuring the common-field lands, a considerable part of these small properties, called Yard-Lands, are still occupied in their original state of commonage, altho' the tenure of them is in many instances changed from copyhold, some to leases for lives, some fallen into the lords' hands and lett at rack rents, and some sold off in fee, and frequently many of them occupied by one person.

The value of these yard-lands is different in different parts of this district, as is already stated, and of course the quantity of land in each varies very considerably. There are many instances where a yard-land of about £. 20 per annum, contains about two acres of meadow land, eighteen acres of arable (frequently in eighteen or twenty pieces), and a right on the common fields, common meadows, and other commonable places, for perhaps forty sheep, and as many cattle as they can winter with the fodder growing on the premises.

Inconveniences attending it.—Much of the occupation of the lands in this district is natural situation. The shape of the manors formerly explained, generally a narrow obliquely with the houses and buildings at one end, many instances where manors are near three miles long, little more than half a mile wide.

The application of the land is almost uniform, common meadows, of which the greatest part immediately adjoin the river: the houses and fences as near to it as possible. Next follows the arable land, until the land becomes too steep or too thin, then the sheep and cow downs, and frequently the extremity of the manor, and adjoining woods of the manors in the opposite bourn.

In some instances, particularly where the streams meet at their junctions, and sometimes at the heads of the valleys, the lands belonging to each manor are partly on one side of the village and partly on the other, whereby it is rendered more convenient; but these instances are comparatively few.

The difficulties attending the inclosing or severalty, the commonable lands so peculiar to this great part of the district is, will be afterward

General custom of feeding the commonable lands.

The custom of feeding the commonable lands in different parts of this district, as well as the method of stocking each commoner (or occupier of a yard) with his right to put; but in general it is as follows:

Sheep commons.—The common sheep down is grazed by the common flock during summer and autumn. The common field (or summer field) is open till it is sown with wheat. The sheep have then only the down, which is over, and the other fields are clear. They remain in those fields and the down until the winter oblique.

to give them hay. Until this period they are foldcd on the arable fields in a common fold: but when they begin to eat hay, every commoner finds his own fold and his own hay; the common shepherd feeding and penning the whole. When the ewes are near yeaning, the owners take them home to their inclosed meadows; and by the time all the ewes have yeanned, the water meadows are ready to take them to grass.

In some instances, the water meadows are common for the sheep stock; in others, they are private property.

When feeding the water meadows, the sheep are penned on the barley land; and by the time the water mead grass is eat, and the barley is sown, the summer field (especially if sown with ray-grafs) is ready to receive the sheep, where they generally stay till near shear-time, and then go to the down until the stubble fields are broken, at which time (perhaps about the middle of September) they usually put the rams to the ewes. These rams are provided, and the common shepherd paid, at the joint expence of the commoners.

As in this state of commonage (where there must necessarily be a great scarcity of winter food) it is necessary to reduce this sheep stock before winter, it is customary to sell off the old ewes and the wether lambs about Michaelmas, and to put out the ewe lambs to winter, either on pasture land, or turnips, in other parts of the county, and frequently in the adjacent counties.

These lambs, are usufally put out from the 10th of October to the 5th of April, and the price is seldom lower than 5 s. and in some instances this year has been as high as 8 s. for that time. And yet after this reduction of stock, the common-field farmers of this district are frequently obliged to buy hay for the rest, which they are often under the necessity of fetching from ten to fifteen miles.

Cow commons.—Cow commons (called cow downs) are frequent in the undivided parts of this district, but not general. They were more general formerly than now, many of them having been, at different times, turned into sheep

commons by consent of the commoners. downs, are usually the best and most level parts lands, and are sometimes worth from 5s. to n acres.

The common herd of cows, usually begin cow downs early in May (usually Holy-Roo finish when the fields are clear of corn. At the and end of the season, they are driven to the morning, and brought back in the evening; but of summer, they are only kept on the down during and in the morning, they are brought back into where they feed the lanes and small marshes side (if such there are) till after the evening. When the stubble fields are open, the cows have feed them jointly with the sheep; and if there meadows (whether watered meadows or not) exclusive right to feed them, till the end of the season (usually St. Martin's Day, 11th November) when the owners take them home to the straw yards; the cows leave the cow down to go into the fields. It becomes common for the sheep flock, during certain part of the winter, when it is again laid cows.

P A S T U R E L A N D S

THIS custom of sowing lands down with no recent grasses, is very little used or known in Wiltshire; the sorts of artificial grasses usually sown will be mentioned.

Natural herbage of the downs.—The natural a great part of the downs of Wiltshire, is composed of almost every known kind of grass, but also of various kinds of plants; and the sweetness of the pastures depends much more on its being kept close, and as it shoots, than on any particular good quality itself; for there are many downs that, when cut,

pear to be a very sweet pasture; but which, if suffered to run a year or two without a full stock on them, will become so coarse, that sheep will almost as soon starve as eat the grass: and even in those parts of the downs, where the finer and sweeter grasses abound, the soil is frequently so loose and porous, that nothing but close and constant treading will prevent them from dying out, or being choked by the larger and coarser grasses.

Sheep stock.—The sheep stock of this district, is an object of the greatest importance. Indeed it may be called the basis of Wiltshire down husbandry.

The peculiar aptitude of the soil and climate to sheep; the singular use of sheep-folding on arable land naturally light and loose; the necessity of making sheep the carriers of dung, in situations where the distance and the steepness of the hills almost preclude the carrying of dung in any other mode; and particularly the advantages that art has given this district, of getting early grass by means of their numerous watered meadows, whereby they are enabled to breed lambs, both for the supply of their stock, and for the market; are the principal reasons that have contributed to give Wiltshire the high rank it has among the sheep-breeding counties.

Number.—The number of sheep kept in this district cannot be exactly ascertained; but from the best information that can be collected, it appears, that the number of lambs bred yearly is at least one hundred and fifty thousand; and that the whole summer stock of sheep, including lambs, is little (if any) short of five hundred thousand.

Notwithstanding the seeming immensity of this number, it is an undoubted fact, that the sheep stock of South Wiltshire, has been, for many years, gradually decreasing, and that it is now lower, by many thousands, than it was fifty years ago. On the sand veins, particularly on the rich parts of them in Pewsey Valley, the introduction of a better husbandry, by the abolition of fallows and the raising green

crops, has tended to destroy the *summer* sheep then, as this husbandry enables them to *winter down* farmers, and that in a much better way than heretofore wintered, it may be said to be a gain a loss to this district.

But on the down part of this district, where a fold is indispensably necessary to the production diminution of the sheep stock is a serious evil. diminution has really taken place, and that to a great extent. But as many of the farmers who have observed the effects of it, are puzzled to account for it, it is not very obvious; perhaps, indeed, it may be due to a combination of causes. There are two that strike me forcibly, who has observed the history of the county for the last thirty years. "The price of fine sheep, and the rage there has been of late years for the plowing up of the sheep downs." The former, flattery the vanity of a farmer, prevents him from attending to his real interest; and the latter, by putting a large supply of money in his pocket, makes it his interest to disregard the future consequences, particularly from

Purposes for which sheep are kept in this district.

The best clue to this enquiry is an investigation of the purposes for which sheep are kept in this district. The first and principal of these, is undoubtedly the *dung*, and the second is the *wool*. The improvement of the *carcass* was not heretofore thought a primary object; perhaps it is in some degree incompatible with the keeping of sheep in this district, viz. the hardness of the animals, which enable it to get its food on a close-fed pasture, within two or three miles for that food, and to carry the same distance back to fold: and the breeding of a flock of sheep of this kind, was heretofore regarded as a *necessary consequence*, rather than as a *primary object* in keeping such flock. A supply of ewe lambs, so

up this stock, was necessary. The wether lambs lived equally hard with the ewes during the summer, and were sold in the autumn; for the wether stock of those that had no convenience of breeding, and such of the ewes as were thought too old to breed, were sold off for fattening. On this system the carcase either of the ewe or lamb was very little attended to.

But the practice of the breeders in this district is now almost totally altered. The first and great object at this time, is the improvement of the *carcase*, both of the ewe and lamb, and particularly of the latter; and the attention is directed much more to the quality of the lambs they breed, than to the quantity.

The pride of having fine lambs, and consequently of having the name of selling them for the highest prices, certainly tends to lessen the stock of breeding ewes, and to the exclusion of *old* ewes from that stock; and as such a stock will not live hard enough to keep the downs close fed, farmers have been induced to break those downs up, under an idea of improving their sheep-feed.

A great portion of this kind of land (as will be afterwards explained) produces great crops, at first, both of corn and grasses, but being thin and loose in its staple, is soon exhausted with a repetition of crops; the grasses that were sown with the last crop soon wear out, the coarse natural grasses, particularly the "black couch or couchy bent," ("Agrostis Stolonifera") and that in a starved reduced state, take possession of, and cover the land, and a young tender-mouthed flock of sheep, will rather starve than feed on it.

This evil has grown so serious, that many farmers who had the misfortune to find their downs in this state, have been obliged to drop breeding entirely, and as they must have sheep to dung their land, are obliged to keep a flock of *wether sheep*, which they renew from time to time, by buying of their breeding neighbours.

The necessity, therefore, of keeping that that is most proper for the soil and climate and most suitable to the uses to which they are in it, is sufficiently obvious. But the question is the best kind of sheep for Wiltshire Down; it has been long and warmly agitated, has resolved—experience must and will hereafter be not for me to pretend to a decisive opinion a question, while so many intelligent, experienced men differ so materially upon it; but I will endeavor partially as I can, to give the reasons adduced in support of their respective opinions.

The kind of sheep which are chiefly kept in Wiltshire, is what has been long known in market by the name of the *Wiltshire Horned*. Wool is moderately fine, and particularly useful, kind of which the second, or what is called cloth (from 10*s.* to 12*s.* 6*d.* a yard), is made. The fleeces of a flock of Wiltshire ewes, from two pounds, to two pounds and an half, higher than three pounds. The value of the fleeces for a few years past, from ten-pence to thirteen-pence a pound—of course, the average produce of a flock has been about two shillings and six-pence. The carcasses of the wethers, when fat, is usually sold at from one hundred pounds to one hundred and twenty pounds.

It has been said, that horned sheep were not the general stock of Wiltshire, but this is not the present enquiry. It is certain, that no man would have chosen them when they were not the general stock, and that till within these few years, they were thought better, for the particular purposes of this district, better, than any other kind would have done.

But the objectors against the present sort of sheep are much altered, from the original kind of horned sheep, by the introduction of new rams

value is at least six-pence per pound more, than applicable to the uses in which the coarser Spanish employed, that of making an inferior kind of cloth. The carcases of the wethers usually fifty-five to eighty pounds each.

How far this sort will answer, time and experience will determine. It has already so far gained ground, that they were only introduced into Wiltshire (by Mr. Kennett) in 1789; the number kept in Wiltshire already increased to fifteen thousand, and is daily increasing. Those who keep them say, that they live so much better, and feed so much cheaper, that they can keep three on the same land that would only keep two Wiltshire sheep. That they are more docile, willing to go where they are sent, and stay more quietly in the fold. They say, that though they are able, by keeping this sort, to breed more lambs, the ewes are such good mothers, that the lambs will be of equal individual value with those from Wiltshire sheep. That the wool, by the improved quality, will almost double what we have hitherto had from Wiltshire sheep. An increased number they keep, they will be compelled to dung their arable land; and they see no difficulty in this, but that the old ewes, when sold off, do not yield so much *individually*, as the Wiltshire sheep; then they say, "That they shall have three to two, and that the wethers, when fattened, are worth a halfpenny or near a penny per pound dearer than horned sheep."

In point of proportional beauty, they certainly do not compare with a Wiltshire sheep. How far they will tend to bring them into general use, time must tell.

Admitting that the Wiltshire sheep were once a good breed, it may be asked, "Why attempts are made to restore them to their original purity?" The new sorts say, that this is impossible, for that breed is quite lost.

But an experiment is now making in many parts of the county (in consequence of the benevolence and public spirit of his Majesty, in procuring rams from Spain, and distributing them, by means of the Bath Society, of the Earl of Aylesbury, and the Marquis of Bath, among our flocks), how far the breed of Wiltshire sheep may be restored to those properties, which their opponents say they have lost.

The Spanish rams appear to have those properties, or perhaps approach nearer to what the old Dorsetshire sheep were, before that sort had undergone similar alterations with the flocks of Wiltshire. History tells us, that the present race of fine-woollen sheep in Spain were sent thither from the Cotswold Hills in Gloucestershire. But this must be a mistake, or else the stock of Cotswold is entirely changed. Their present breed is a large, long-woollen, polled kind of sheep; whereas the Spanish rams, which have been imported by the King, are a small, short-woollen, horned sheep. In fact, they resemble the Dorsetshire sheep much in their general appearance, save only that their horns are more open and thinner than the Dorsetshire sheep now are, and are more like those of the sort of sheep now bred on Mendip Hills, which appear to have derived much of their present shape from the old kind of Dorsetshire sheep. The Spanish sheep have the tuft of wool on their foreheads, which is common in the Mendip kind. They are a small, compact animal; and, though much lower in their legs than the present Wiltshire sheep, seem active, and able to walk a long way to fold. They are lighter in their fore-quarters, and offals in general: wide and good in their hind-quarters: well covered with wool on the bellies, and down to their hocks; and therefore (though coming from a hot country) appear hardy, and capable of bearing cold. They appear to carry a much greater weight of wool, in proportion to their size, than Wiltshire sheep; and although they have been two or three years in England, their wool has been pronounced, by many good judges, to be equal to the immediate growth of Spain.

This cross appears to promise success. It hardly be called a *cross*, but a *restoration*. The and form of the two animals, evidently shewing been originally one species.

The Earl of Aylesbury is now crossing South with Spanish rams. This cross is evidently produce a very fine wool; but how far it will carcass, time must determine. Several other the Spanish rams, with different kinds of ewe attempted, under the auspices of the Bath Socie one in particular, "that with the native Mend have made a very great improvement, not only in size, but in the weight of the wool."

Many other crosses of breed have been also duced into this part of the county, but the e too recent to judge of their success. Mr. Cr therton, has introduced Leicestershire rams flocks, as a cross both to Wiltshire ewes and ewes (particularly in the flocks of Mr. Gray, and Mr. Blake, of Overton); and Mr. Hayter bourn-Stoke, has crossed his Wiltshire ewes w rams.

The advantage in the *size* and *value* of the crosses with Leicester and Cotswold rams, is But how far any of these mixtures may anti general purposes of South Wiltshire husbandry, tible as yet to determine.

Disorder called the gezzles.—As to the disorder *gezzles*, which has operated more to bring t kind of sheep into discredit than all other reas ther, it being so much dispersed through the the same time kept so secretly, that no breeder years past, known where to buy a ram, without risque of introducing the disorder into his flock. not clearly appear when this disorder was introduced into Wiltshire, nor is it certain that it is peculiar of sheep.

It was very little noticed in Wiltshire till about twenty-five years ago; and yet it is certain, that *a disease, which was undoubtedly the same disorder*, though called by another name, was known in Lincolnshire upwards of forty years ago; for, by a memorial delivered to the House of Commons in 1755, by the breeders and feeders of sheep in the county of Lincoln, it is stated, "that for ten years then past, a disorder, which they called the rickets, or shaking, had prevailed among their sheep; that it was communicated in the blood by the rams, and would frequently be in the blood twelve months or two years before it was perceptible; but that when once a sheep had this disorder, it never recovered."

Perhaps the reason why this disorder has been of late chiefly known as the *Wiltshire disorder*, is, that the greatest part of the Wiltshire sheep are sold off when lambs, with intent to be fattened before they are two years old; and if the goggles is in the blood, the pushing them with high keep at that age, will be sure to shew it.

Many thousands that have been sold, not only out of Wilts, but also out of Hants and Dorset, have shewn it; the sellers have been obliged to stand to the loss, and the sort of sheep thereby brought into discredit. However, the disorder has been for a long time on the decline; and will, if care be taken in selecting rams, probably soon wear out.

From what has been said respecting the sheep-stock of this district, it is clear, that no fair conclusion can ever be made, as to the relative merits of the different kinds, until the contending parties are agreed on the purposes for which such sheep are kept. Many who have argued very violently on the subject, have never considered, that "sheep bred for *folding*," are bred to walk: "sheep bred for *fatting*," are bred to stand still. The first was the great object for which the *old Wiltshire* farmers bred sheep; the latter seems to be, in a great measure, the object of the breeders of the present day.

Smallness of bone, and an aptitude to get fat, at an early age, are the grand requisites of sheep bred for the latter purpose;

purpose; and, perhaps, the contrary qualities, in degree, may be as requisite in those bred solely for sole of folding.

Each party contend, that their favorite kind is profitable for the general purposes of Wiltshire dairy; and a third, that a mixture of the good points of each, is better than either. Posterity will probably determine who were right.

Cow-stock.—Although milch cows have paid for late years, and milk and butter are so indispensably in the rage for keeping fine sheep has almost driven them out of this district; and was there not a necessity of some cows to feed the water meadows in autumn (they are not safe for sheep), and to eat the barley to make dung in winter, there would soon be very few in South Wiltshire. The profit and loss, of this stock, will be afterwards enquired into.

As they are not a favorite stock, the farmers are not very particular about kinds in the corn part of the district.

The great farmers frequently let their dairy cows for the year, they finding all the keeping, and supplying them when necessary. The price is usually from 5*l.* to 7*l.* per cow.

In a large part of the south-west skirts of this county, adjoining to Dorsetshire, viz. Sedghill, Semley, &c. numbers of cows are kept purposely for making cheese, and which, with those parts of Dorsetshire and Somersetshire contiguous, furnish a great part of the butter used, not only in Bath and Salisbury, but even in towns immediately in the neighbourhood of the great cheese-makers in North Wilts (who seldom make any butter except cheese), while this county makes so little cheese, that the towns in its neighbourhood buy the greatest part of their cheese from Somersetshire or North Wiltshire. There is really a particular aptitude in cows of one breed to produce more butter, and in the other to produce more cheese.

and author of a 'no profit' statement of the dairy, was in the course of a full descriptive narration, or part of it, of his agricultural or pastoral system, is an object of interest, & so is he. But a writer is in reality of even greater and greater importance, than cattle, it is a man's knowledge of the country of Wiltshire that there is a very 'hardy breed' and the 'beginning creature', who thinks his education ends when he has money for the

You will see the fat of this district, the large white long-eared pigs, down and in a market, well fattened with corn, and no bacon with that will stand, for the country the bacon is not in any case deservedly bad for good bacon. And a pig is considered, that bacon which were once put out in cold, and remained two year old, when killed, one year had become fit both in substance & colour.

It is evident however to considering these kinds of animals, which come only in perfection, the most most singularly interesting in improving the breed of pigs. The Caunes pig, and their hogs, or negro pigs, and come to perfection in the time that the old Wiltshire pigs would do, and with much smaller and proportionately less feed: of course, they are the most profitable to the master; and in delicacy of flesh, the new kinds are certainly much superior to the old; but in their pure state, they are much better for pork than bacon. They are too small in their carcasses, and run to much fat, and too little lean, for bacon, and particularly for ham. But a mixture of either of these kinds, are particularly of the negro pig with the large Wiltshire pig, has been found to answer exceedingly well. And this cross is now the prevailing pig of this district, and in point of profit is certainly the most advantageous stock. The usual weight of the carcass is from ten to fourteen score; and though, perhaps, the firmness of the flesh of the old Wiltshire bacon is, in a certain degree, lessened by this mixture, the delicacy of the flavour of the mixed breed, and above all the increased profit in keeping them, make ample amends for it.

WATER

WATER MEADOWS.

THESE is, perhaps, no part of this kingdom where the system of watering meadows is so well understood and carried to so great perfection, as in this district, which is so justly called by Mr Kent "the most valuable of all improvements," was introduced into this district in the latter end of the beginning of this century. Many of the best formed meadows, particularly in the neighbourhood of Stockton, between the year 1700, and the present time, were made under the directions of one farmer of Stockton, between the year 1700, and the present time. And at present there is scarcely a river or stream in this district, that is not applied in some way or other to the purpose.

An imperfect scheme of watering, had been practised before that period. Perhaps in the induction into this district, is almost coeval with the introduction of the long-wooled folding sheep, with which it is intimate. But the *regular mode*, in which both systems were conducted, is certainly not very ancient. Many persons who have died within the memory of man, when neither of the systems was conducted according to plan.

Theory of water-meadows.—The idea of creating meadows, so far as it relates to bringing the water into the land, was taken from nature. It must have been observed, that winter floods produced fertility; and that the water did not remain too long on the land. Taking the water off the land at will, and again at will, is the effect of art; and the knowledge of the proper time to do this, the effect of observation.

A water meadow is a hot-bed for grass. The winter water acts upon land, so as to produce vegetation, before natural vegetation begins to grow. This was a physical problem, which it is not a farmer's problem. It was sufficient for him to know that the fact was true.

servation on the effects of water so brought on, soon showed them at what period its good effects ceased, and when it began to do mischief. This observation, therefore, regulated the time of keeping the water on the land—and as this period was different, on different kinds of land, and at different seasons of the year, it became necessary that they should have such a command of the water, as to *take it off* immediately, as soon as they found the state of the land required it. This, by degrees, produced that regular disposition of the water carriages and water drains, which, in a well laid out meadow, bring on and carry off the water, as systematically as the arteries and veins do the blood in the human body.

As water meadows are totally unknown in many parts of the kingdom, and but very partially known in others, it may not be thought improper, in an agricultural account of South Wiltshire, to speak a little more fully on their nature and properties. If it should tend to excite the same improvement in other counties, one of the great objects of the institution of the Board of Agriculture will be answered.

Nature and properties of water meadows.—It has been already premised, that the principle of a water meadow, is the power of bringing on and carrying off the water at pleasure. And provided this great object can be accomplished, it is not material what the shape of a water-meadow is, or that the disposition of the trenches (provincially "*the works of the meadow,*") should be uniform. But as very little land can be entirely commanded by water, unless its inequalities are reduced by manual labour,—it has been found convenient to adopt two different kinds of water meadows, one for land lying on declivities, and which must in general be watered from springs or small brooks, and the other for low land near rivers, to be watered from those rivers.

The first kind is called in Wiltshire, "*catch-work meadows,*" and the latter "*flooding meadows.*" The latter are by far the most general in this district.

It is impossible to give any intelligible, v
tion, of the mode of making these meadows
tion must be seen to be properly understood.

Catch-work meadows described.—But to
distinction between the two kinds of meado
some idea, what are the situations in which
introduced, it may be necessary to remark, th
“ work meadow” * is made by turning a
stream, along the side of a hill, and thereb
land between the New Cut, (or as it is pro
the Main Carriage) and the original water,
now becomes the “ main drain.” This
done in particular instances, merely by m
cut level, and stopping it at the end, so
full, the water may run out at the side, and
below it. But as the water would soon
equally for any great length, and would wa
in gutters, it has been found necessary to
el trenches or carriages, at distances of
feet, to catch the water again, and each
likewise stopt at its end, lets the water o
distributes it until it is caught by the n
over all the intermediate beds, to the ma
bottom of the meadow, which receives
earries it on to water another meadow belo
be so contrived, another part of the sam
lower level.

To draw the water out of these parallel t
riages, and lay the intermediate beds dry,
drain crosses them at right angles, at ab
or ten poles length, and leads from the
top, to the main drain at the bottom of the

When this meadow is to be watered,
carriages adjoining the cross drains, are
dug on the spot, and the water is thrown
the meadow as it will cover well at a

* The “ catch-work meadows” are the kind, that are
found on the hills in Devonshire.

watermen call a "Pitch of Work;" and when it is necessary to lay this pitch dry, they take out the turves and let the water into the drain, and proceed to water another pitch.

This kind of water meadow is seldom expensive: the quantity of water being usually small and manageable, few labourers are necessary; and the land lying on a declivity, much less manual labour is required to throw the water over it regularly, and particularly to get it off again, than in the flowing meadows. The expence of making such a meadow is usually from three to five pounds per acre; the improvement frequently from fifteen shillings an acre to at least forty. The annual expence of keeping up the works and watering the meadow, which is usually done by the acre, seldom so high as 7s. 6d. per acre.

*Flowing meadows described.—*The other kind of water meadows, viz. those usually called "Flowing Meadows," require much more labour and system in their formation. The land applicable to this purpose being frequently a flat marshy, the first object to be considered is, how the water is to be got off when once brought on; and in such situations this can seldom be done, without throwing up the land in high ridges, with deep drains between them. A main carriage being then taken out of the river at a higher level, so as to command the tops of these ridges, the water is carried by small trenches or carriages along the top of each ridge, and, by means of moveable stops of earth, is thrown over on each side, and received in the drains below, from whence it is collected into a main drain, and carried on to water other meadows, or other parts of the same meadow below. One tier of these ridges being usually watered at once, is usually called "a Pitch of Work;" and it is usual to make the ridges thirty or forty feet wide, or, if water is abundant, perhaps sixty feet, and nine or ten poles in length, or longer, according to the strength and plenty of the water.

It is obvious from this description, that as the water in this kind of meadow is not used again and again, in one pitch, as in the catch meadows that this method is only

F applica-

applicable to large streams, or to valleys subject to floods; and as these ridges must be formed by *manual labour*, the expence of this kind of meadow must necessarily exceed the more simple method first described: and the hatches that are necessary to manage and temper the water on rivers, must be much more expensive than those on small brooks.

The expence, therefore, of the first making such a meadow as this is, will be from twelve pounds to twenty pounds per acre, according to the difficulty of the ground, and the quantity of hatch-work required: but the improvement in the value of the land by this operation is astonishing. The *abstract value* of a good meadow of this kind, may fairly be called three pounds per acre; but its value, when taken as *part of a farm*, and particularly of a *sheep-breeding farm*, is almost beyond computation; and when such a meadow is once made, it may be said to be made for ever, the whole expence of keeping up the works, and watering it frequently, not exceeding five shillings per acre yearly, and the expence of the hatches, if well done at first, being a mere trifle for a number of years afterwards.

Supposed quantity of water meadows in this district.—The number of acres of land in this district, under this kind of management, has been computed, and with a tolerable degree of accuracy, to be between 15 and 20,000 acres.

Indeed, it has been found so very beneficial, that very few spots of land capable of being watered, remain otherwise, unless where some *water mill* stands in the way, or where some person who has the command of the water *above*, refuses to let it be taken out of its natural course to water the lands below.

Some new meadows might be made, and very great and beneficial alterations made in the old ones, if some plan could be adopted to get the command of water where necessary for this purpose, and particularly in the case of water mills. A remedy for this will be afterwards proposed.

Water meadows do not make a country unhealthy.—It has been alledged by those who know very little of water meadows,

dows, that they render the country unwholesome by making the water stagnant—Daily observation proves the fact to be otherwise in Wiltshire; and the reason is obvious. It has been already said, that a water meadow is a “hot-bed for grass;” the action of the water on the land excites a fermentation; that fermentation would certainly in time end in a putrefaction: but the moment putrefaction begins, vegetation ends. Every farmer knows the commencement of this putrefaction, by the scum the water leaves on the land; and if the water is not then instantly taken off, the grass will rot, and his meadow be spoiled for the season. The very principle of water meadows, will not permit water to be stagnant in a water-mead country; it must be always kept in action to be of any service: besides, many of the best water meadows were, in their original state, a stagnant, unwholesome morass.

The draining such land, and making it so firm, that the water may be taken off at will, must contribute to the healthiness of the country, instead of injuring it.

Great advantages from water meadows.—It is frequently asked how it comes to pass, that although water meadows are so useful as to be almost indispensable in South Wiltshire, yet in other counties where they are not known, the want of them is not felt; nay, that there are even in this district many parishes who have none, and even breed lambs without them? To this I answer, that the fair question is not, “How do other counties do without them?” but “how could the farmers of this district, “who are happy enough to have water meadows, pursue “their present system of sheep-breeding, if those meadows “were taken away?” a system which I do not hesitate to say, is more profitable to themselves, their landlords, and the community at large, than any other that could be substituted in its room; and perhaps this question cannot be answered better, than by exhibiting the contrast between those who have water meadows, and those who have none, in the same district.

Every farmer who keeps a flock of sheep, and particularly a breeding flock, in so cold and late-springing a district as

South Wilts, knows and feels the consequences of the month of April. "That month between hay and graft, in which he who has not water meadow for his ewes and lambs, frequently has *nothing!*" The ewes will bring a very good lamb with hay only; perhaps a few turnips are preserved for the lambs, which, in a very favourable season, may last them through March; but if they are then obliged to go to hay again, the ewes shrink their milk, the lambs "pitch and get stunted," and the best summer food will not recover them. To prevent this, recourse is had to feeding the grass of those dry meadows that are intended for hay, the young clovers, and frequently the young wheat; in fact, every thing that is green—And who will pretend to estimate, what is the loss that a farmer suffers by this expedient?

The ray grass, on the exposed parts of this district, is seldom "a bite" for the sheep, till near May-day. If the season should permit any turnips to be kept till that time (which can seldom be depended upon), they are not only of little nourishment to the stock, but they exhaust the land so as to prejudice the succeeding crop. And it ought to be remarked by the way, that in many parts of this district, the soil is not at all favourable to the production of turnips. It therefore necessarily follows, that a farmer, under these circumstances, has no *certain resource* to support his stock during this month, but hay—and even in that he is sometimes disappointed, by having been obliged, in the preceding spring, to feed all the land which he had laid up for a hay crop: he is then obliged to buy hay, and that frequently at the distance of many miles. And to add to his distress at this critical time, his young ewes are then brought home from wintering, to be kept nearly a month on hay alone.

In this month, which so often ruins the crops, and exhausts the pockets of those sheep-breeding farmers, who have no water meadows, the water-mead farmers may be truly said to be "in clover." They hain up their dry meadows early, so as almost to insure a crop of hay; they get their turnips fed off *in time* to sow barley, and have the vast

advantage

advantage of a rich field to manure it. They save a month's boy; and have no occasion to touch their field grass till there is a good bite for their sheep; and their lambs are as forward at May-day, as those of their less lucky neighbours are at Midsummer. And after all, they are almost certain of a crop of hay on their water meadows, let the season be what it will.

Management of water meadows.—The management of water meadows (as nearly as it can be described in an account necessarily so concise as this), is in the following way:

As soon as the after-grass is eaten off as bare as can be, the manager of the mead (provincially “the drowner”) begins cleaning out the main drain, then the main carriage, and then proceeds to “right up the works,” that is, to make good all the water carriages that the cattle have trodden down, and open all the drains they may have trodden in, so as to have one tier or pitch of work ready for “drowning,” and which is then put under water (if water is plenty enough), during the time the drowners are righting up the next pitch. In the flowing meadows this work is, or ought to be, done early enough in the autumn, to have the whole mead ready to catch, if possible, “*the first flood after Michaelmas*,” the water being then “thick and good,” being the *first* washing of the arable land on the sides of the chalk hills, as well as of the dirt from the roads, &c., &c.

The length of this autumn watering cannot always be determined, as it depends on situations and circumstances; but if water can be commanded in plenty, the rule is to give it a “thorough good soaking” at first, perhaps, a fortnight or three weeks, with a dry interval of a day or two, and sometimes two fortnights, with a dry interval of a week, and then the works are made as dry as possible, to encourage the growth of the grass. This first soaking is to make the land sink and pitch close together; a circumstance of great consequence, not only to the quantity but to the quality of,

the

the grass, and particularly to encourage the new roots which the grass is continually forming by forced growth above.

While the grass grows freely, a fresh water is wanted, but as soon as it flags, the watering must be stopped for a few days at a time, whenever there is a want of getting water, always keeping this fundamental view, "to make the meadows as dry as possible," "watering;" and to "stop the water, the appearance of any scum on the land, shews that you had water enough."

Some meadows that will bear the water in October, November, or December, will, perhaps, not bear it in February or March, and sometimes not even for a week in April or May.

In the catch meadows watered by springs, the object is to keep the "works of them" as dry as possible during the intervals of watering; and as such situations are often affected by floods, and generally have too little water, it is necessary to make the most of the water by turning it as often as possible; and as the top tier or pitch will be liable to get more of the water than those lower down, care should be taken to give it a longer time, so as to make them as equal as possible.

Custom of feeding meadows with sheep.—It has been said, that the great object in this district is to obtain a good crop of water meadow grass, is to enable the ewes to bring early lambs.

As soon as the lambs are able to travel without hindrance (perhaps about the middle of March) they begin to frequent the water meadows. Care is, or ought to be, taken to keep the meadows as dry as possible for some days before the sheep are let in.

The grass is hurdles out daily in portions, so that the number of sheep can eat in a day, trampling the rest; at the same time, leaving spaces in the hurdles for the lambs to get through.

forward in the fresh grafts. One acre of *good grafts* will be sufficient for five hundred couples for a day.

On account of the quickness of this grafts, it is not usual to allow the ewes and lambs to go into it with empty bellies, nor before the dew is off in the morning.

The hours of feeding are usually from ten or eleven o'clock in the morning to about four or five in the evening, when the sheep are driven to fold; the fold being generally at that time of the year (as has been mentioned before) on the barley fallow. And the great object is to have water-mead grafts, sufficient for the ewes and lambs, till the barley sowing is ended.

Meadows laid up for hay.—As soon as this first crop of grafts is eaten off by the ewes and lambs, the water is immediately thrown over the meadows, (at this time of the year two or three days over "each pitch," is generally sufficient) and it is then made perfectly dry, and laid up for a hay crop. Six weeks are usually sufficient for the growth of the crop. It seldom requires eight; and there have been instances of great crops being produced in five.

Nature of water meadow hay.—The hay of water meadows, being frequently large and coarse in its nature, it is necessary to cut it young; and if made well, it then becomes of a peculiarly nourishing milky quality, either for ewes or dairy cows..

The water meadows are laid up for a second crop, in *some instances*; but this is only usual when hay is scarce: not that it is supposed to hurt the land, but the hay is of that herbaceous soft nature, and takes so long time in drying, that it is seldom well made. It is usually of much greater value to be fed with dairy cows. And for that purpose a flush of after-grafts, so early and so rank, will be precisely of the same comparative service to the dairy, as the spring feed has been described to be for ewes and lambs.

The cows remain in the meadows till the "drowners" begins to prepare for the winter watering.

Water

*Water meadows safe for sheep in spring, b
in autumn.*—Water meadows are reckoned
safe for sheep in the spring, even upon let-
sheep, if it was not watered, but in the
water meadows are supposed to be dangerous;
present an inexplicability in the operations
discovery of the reason might perhaps lead,
to a discovery of the causes of the rot in
circumstance itself is rather an advantage, than
to this district, as it obliges the farmers to
cows, to feed the water meadows in autumn
artificial grasses, or other green crops for the
that period.

Proper soils for water meadows.—From
so repeatedly urged, on the necessity of ma-
dows dry, as well as wet, every reader mu-
the advantage of having them, if possible, o
“absorbent bottom.”

The bottom or sub-soil of a water mead,
consequence than the quality or the depth o

Not but that land on peaty or clay botto-
siderably improved by watering; and there
water meadows on such soils, but they are in
account of the difficulty of draining the w.
and making them firm enough to bear treads.

A loose gravel, or what, perhaps, is still
broken flints, with little or no interm
wherever it can be obtained, is the most desir-

On many of the best water meadows
where the bottom is a warm, absorbent gr

* There is a striking proof of the truth of this statement, in the case of the meadows near Hungerford, and particularly at Standen. A road crosses them in no regular plan, and in many instances there are deep hollows, which admit of water carriages, yet the gravel bottom is so very absorbent, that it will soak out in a few hours, and the meadows be left as dry as if they had been laid out on the most systematic plan. And few meads in the neighbourhood are sown with crops either of spring seed or of hay.

ed of broken flints; the soil is not six inches deep, and that depth is quite sufficient, in those seasons when water is plenty, as the grass will root in the warm gravel in preference to the best top-soil whatever, and such meadows always produce the earliest grass in the spring. Nor is it so very material, of what kinds of grasses the herbage is composed, when the meadow is made. That kind will always predominate, which agrees best with the soil and the water, provided the supply of water is regular and constant every winter, otherwise that kind will predominate which will bear wet and dry, and some of the worst grasses, in their native state, will become the best when made succulent by plenty of water.

Long grass meadows.—Nature has given a striking lesson on this subject in this very district, viz. In the two small meadows at Orcheston (six miles north-west of Amesbury), usually called the “Wiltshire Long Grass Meads.”

These meadows adjoin together, and contain, in the whole, only two acres and an half, and yet the crop they produce in a favourable year is so immense, and of so good a quality, that the tythe hay of them was once (according to the information of the tenant) sold for five guineas.

Much has been said, and little understood, about those meadows, and the grass they produce.

Many proposals and attempts have been made to propagate the grass; and many skilful botanists have returned from the spot, without finding out *which was the long grass*, its appearance being so very different in different seasons.

It has not been till lately, that it was discovered by Mr. Sole, of Bath, and communicated to the Bath Society, that the greatest part of the herbage of these meadows, was nothing more than the “black couch, or couchy bent.”

(“*Agrostis Stolonifera*”) one of the worst grasses, in its native state, the kingdom produces, and the peculiar plague of farmers in this particular district. It usually abounds in such arable land as is too poor to bear the white couch (“*Triticum repens*”), and is the general and almost only

G herbage

herbage of the old burn-beaked worn-out down; and in that situation is of that coarse, hard, wiry nature, that no cattle will eat it. It forms a thick tough rug over the land, that preserves itself, and kills every thing else. But in these meadows, when abundantly fed with water, it is of a juicy, succulent, nourishing quality, *as grass*, and makes the most desirable *hay* in the district, particularly for sheep.

These meadows lie in the upper part of the bourn that runs from Tilsham to Stapleford, and in some winters the rivulet that passes through them is very inconsiderable. They are not laid out in regular form for watering, the supply of water being too irregular, but depends on the floods entirely; and being situated at a sharp turn of the valley, which is narrow at that spot, the water makes an eddy, and deposits its sediment upon them. The bottom is almost an entire bed of loose flints, so that the roots shoot freely in it, and produce strong succulent shoots, which fall down, and taking root at the joints, shoot out, and drop, and root again, so that the stalk is frequently eight or ten feet in length from the original root, and though the crop is exceedingly thick on the ground; it is, perhaps, not eighteen inches high.

Although this grass is most abundant in these two meadows, it is also very predominant in the greatest part of the meadows below it, on the same stream, and whenever the winters are productive of floods, the grass in all of them is abundant in quantity, succulent and juicy in quality, and the hay exceedingly nutritive. But in a scarce year of water, their produce is very small indeed, and that of a very bad quality.

On examination of other meadows, in different bourns of this district, the same grass appears uniformly to abound in those that are situated *near the spring-heads*, and which, in some years, have plenty of water, and in some none at all: the same remark is as uniformly made on its variation in quantity and quality, *according to the wetness or dryness of the winter*; and the most probable way of accounting for it, is, “*That it is almost the only grass, common to water meads,* “*that will stand wet and dry.*” For though it will live, and indeed

Indeed flourishes most, when under water, yet no dry weather will kill it.

Culture of arable land.—Under the common field husbandry, little or no variation of crops could take place.

**Wheat,
Barley,
Oats,**

were the principal grains thought of; and the first idea always was to get the *wheat crop round as often as possible*, whether the land was good or bad, deep or shallow.

Before the introduction of artificial grasses, the arable lands of each manor were usually laid in three common fields, of which the round was

Wheat,
Barley, or Oats,
Fallow.

But in some manors their fields were in a still worse course,

**Wheat,
Barley,
Oats,
Fallow.**

Artificial grasses.—But the tenants, in many common fields, being convinced at length of the profit of sowing ray grass, clover, &c. came to an agreement to sow it in all or part of their spring crop, and to mow all or part of it in the next summer, previous to a wheat crop, instead of suffering the ground to lay fallow. In some instances they altered their fields for this purpose, by making a fourth field where there originally were but three; in others, the three fields still remain, and the grass stands only one year. And where the land was originally in four fields, they sowed, in some instances, the barley field, and in others, the oat field, &c.

grasses : but there are still many common fields, in which the introduction of artificial grasses has not yet generally taken place.

General course of common field husbandry.—The general courses of husbandry in the common fields, may therefore now be said to be these, viz. in those cases where the occupiers can agree to sow clover.

First, Three field husbandry.

1. Wheat.
 2. Barley, with clover.
 3. Clover, part mowed, part fed.
- Then wheat again.

Secondly, The bad four field husbandry,

1. Wheat.
2. Barley.
3. Oats, with clover.
4. Clover, part mowed, part fed.

But neither of these systems can exist, unless where they have good sheep downs, because they have only *half a field* for their sheep stock all the summer; and from the time they plow for wheat, until the wheat stubs are open, they have *no place for the sheep at all*.

From this difficulty, a better four field system originated.

1. Wheat.
2. Barley, with clover.
3. Clover, mowed.
4. Clover fed, until it is necessary to plow it up for wheat again.

But as in this course of husbandry, they thought some of the land *too good to lie fallow two years*, they set apart one-third or one-fourth of the best of each field, which they call a nook-land or hitch-land field, which, instead of sowing to clover with their barley, they reserve for

Vetches,

Vetches, for green food for horses ;
 Pease,
 Beans,
 or Turnips ;

and of late years frequently for Potatoes, for the two years in which the other parts of the same fields lie in Clover ; but taking care always to have them ready to come in course, with the rest of the field for Wheat.

During the time these parts of the fields are used as hook-land, they are discharged from the common stock of cattle and sheep, but are again subject when in a state of wheat stubs and barley stubs.

Perhaps this is as complete a system, for a great part of this district, as the nature of common-field husbandry will admit of.

Evils of the common-field husbandry.—But the great evils of that husbandry, viz. the situation of the lands in numerous small dispersed pieces ; the difficulties in keeping a common stock of sheep free from diseases, and the prevention of any improvement in their breed ; and, above all, the absurdity of plowing and sowing *all* land alike, be its nature ever so different, remain in their full force.

Kinds of Grain usually sown.

As to the *kinds of grain* at present sown, WHEAT is seldom omitted to be sown in every round of the common-field arable land, whether the land is adapted to it or not. The tenantry fields having been originally laid out without much regard to soil, the light thin loose lands on the hills, are frequently obliged to carry wheat every third or fourth year at farthest, because the deep strong lands in the valley are able to do it. Of course, this crop is frequently *dear-bought*, by the value of the manure used in preparation for it, to the great detriment of the rest of the farm, and particularly of the turnip crops, if they have any.

BARLEY

BARLEY is the favorite crop of great district. The climate, and a great proportion flinty loams), are peculiarly favorable to the quality of this grain; and the water meadow system are particularly adapted to its culti-

But although the flinty loams, and partic assistance of a sheep-fold, are the only lands peculiarly adapted to barley, yet such is the s and imitation, that it is not an uncommon th strongest clayey or chalky loams under the same kind of management, whereby, in sowing time, the crop scarcely reproduces the the grass seeds sown with it come to nothing frequently the case; and was so particularl 1792. And for this reason, wherever arable fi laid in severalty, the almost exclusion of barley strong heavy lands has been the consequence, in several instances, particularly in the Pewsey

OATS are not much cultivated in this dist there is a doubt, whether there are not more this district than what grow in it.

Barley being, as is before said, the favorite seldom sown in any great quantities, but in situations as will not bear barley, particular light soil of the new-broke downs. Even with a regular tenantry oat-field, the farmers look tivation of them to be bad husbandry; and forego the crop, to give an additional year's wheat lays.

BEANS and **PEASE** are seldom sown in large portions in the common-fields.

The few that are sown, in the portions called land-fields, are scarcely worth mentioning; they are usually sown and managed in a slovenly man

Wherever the division of common-fields has it has tended to increase the cultivation of be

in proportion as it has decreased the cultivation of barley, in lands that are more proper for the former than the latter.

The sand veins of the district are too inconsiderable in their quantity, and too variable in their quality, and, in the present common-field state of South Wilts, usually in too many hands for a separate distinct husbandry, although they certainly require a management totally different from all the other soils of the district.

In the common-fields they are necessarily sown in course, and fallowed in course, with the other arable lands; and there can be no stronger proof that such husbandry is wrong, than the bare mention of a well-known fact: that in all divisions of common-fields, where there are sand lands, the improvement in their value has been usually double to that on the adjacent soils.

ARTIFICIAL GRASSES.

The kinds of *ARTIFICIAL GRASSES* that are usually sown in this district, are—

Broad Clover in the low lands; and

Ray Grass, with usually an intermixture of hop clover (otherwise called trefoil, or nonsuch), on the high lands.

But in those fields where clover has been long introduced, and repeatedly sown every third or fourth year, they begin to complain that the land is tired of broad clover, and therefore frequently vary the sorts, sowing hop and ray instead of it, and sometimes adding a mixture of marble grass, or Dutch clover; which last has been found to answer very well in lands tired of broad clover.

In fact, many of the tenantry fields are so worried out by repeated crops, that many of them are also become tired of corn as well as of clover.

Many of the high lands are proper for saintfoin; and though there are some of which the soil is too light and too loose, there are many others which might be sown with it to great advantage, and so rested from corn for some years, as is done in the neighbouring county o. Hants; but as

this is not practicable in common-field husbandry, of that valuable grass is sown in this district.

Perhaps one reason, why the cultivation of falf been so little attended to in this district, is, that it much wanted for autumn food, as in countries w have no sheep downs. The great object of sowing grass in South Wiltshire, is to have a plenty of sp for the sheep, from the time the water meadows ar till the time the sheep go to down; and on this ray grass may be called the depending, artificial gra district. This grass is less subject to fail than clo makes an earlier spring feed, especially in high and situations; and being of an exceeding nutritive n very proper for ewes and lambs. But it is gene marked, that the quality of ray grass has of late v degenerated. The original kind produces a white a white seed, and is a perennial grass. The degene has a purple stalk and a blackish seed, and is almost an annual. According to the Wiltshire phrase, " to couch." In other words, it soon dies out of and the couch grass supplies its place. The resto this grass to its original purity, by a particular att the varieties of it, and a careful selection of the so object of great consequence. Repeated sowings of seed in the same land, have undoubtedly contribute degeneracy. Purchasing the purest seed that ca from other soils and climates, may contribute to to its original purity *.

T U R N I P S.

A common-field system undoubtedly excludes, in measure, the cultivation of Turnips. But it has marked, that even in the inclosed farms of this

* Since writing the above remark, on the degeneracy of ray grass, Mr. Peacey, of North Leach, in Gloucestershire, has informed the B that, having selected seed from pure perennial ray grass some ye has repeatedly sown it, and finds it perfectly to answer the des and has now a quantity of the seed for sale.

turnip crop seldom makes a regular part of the general system; notwithstanding there are very few parts of South Wilts where their cultivation is not understood, and practised *at times*, and that a turnip crop seems rather a matter of accident than of system. There are, doubtless, *local reasons* for this seeming neglect of a crop so valuable in other countries; and it is more candid to inquire into those reasons, than to condemn, in *a lump*, the husbandry of a district; especially of so large a portion of a county, whose farmers have seldom been charged with ignorance of their own interest, or want of spirit to pursue it. The principal reason seems to be, a peculiar unfavourableness in the soil of many parts of the district to the growth of turnips.

There is a peculiar churlishness (provincially “clottiness”) and want of mellowness in the soil of many parts of South Wilts, particularly on the white land soils, (probably arising from the coldness of the *sub-soil*) that in some seasons prevents the seeds from vegetating; and in others, from coming to any great maturity. There are also many parts of the down lands, on which it is reckoned almost impossible to get a good crop. And the stiff white lands are not only unfavourable to their growth, but (in wet winters particularly) to feeding them off when grown. Both these kinds of land have been already mentioned as unkindly for barley, and they are still more so for turnips. And yet there are, doubtless, many parts of this district, on which, under the idea that turnips will not grow, they have never been tried; or in case of their having once or twice failed, the experiment has not been repeated. Surely it merits the attention of every farmer to investigate, whether the fault is really in the land, or whether a little of it may not be in the management.

The flinty loams that have been mentioned as so very kindly for barley, are by the same rule equally so for turnips; but it happens, that these soils generally lie near water-meads, where turnips are not absolutely indispensable for spring food. The water-mead grass not only being a good, but a *certain* substitute.

And although there are, at least, two months in every winter before the water-mead grass is fit to be fed off, in which turnips would be very useful; yet as the crop (or indeed the chance of a crop) is to be purchased at the certain loss of a crop of barley, (and that manured better from the water-meadows than from turnips) there is some reason for the neglect of turnip husbandry, in such soils and situations.

The land veins of this district are peculiarly adapted to turnip husbandry; but there are few farms that have sufficient land of this description, to enable them to apply a part of it *every year* to turnips. Inclosures of common-fields, will undoubtedly increase their cultivation in land of this description: in fact, it does increase daily. And as nature has fortunately placed the greatest part of these veins in those parts of the district that do not abound with water-meadows, the evident advantages of turnips will bring them into general use on the sandy soils, whenever the inclosure of common-fields will permit this kind of husbandry to be brought into a regular, general system.

RAPE (or Cole seed) is much cultivated on the downs, particularly on those parts that are peculiarly unkindly for barley and turnips. It is reckoned a very nutritive milky food for ewes that have lambs; but is supposed to exhaust the land, unless fed off early, before it has taken too deep root. It is certainly, when under proper management, a most valuable green winter food; and particularly as it will grow in those kinds of soil in this district where neither turnips, sainfoin, vetches, clover, and, in some instances, not even ray grass will grow, viz. "the strong, cold, wood-
" four land, and the black loose soil of the downs."

VETCHES do not thrive at all on the soils of the downs of the two latter descriptions: they are very apt to suffer by mildew: but their cultivation is very common on the strong loam, as a preparation for wheat. They are often sown to cut as green meat for horses; and still oftener for

weaning lambs on. Both kinds of vetch, "the winter vetch and spring vetch," are sown in this district, so as to have a succession of crops during the summer.

The winter vetch is usually sown early enough in autumn, to be high enough to cover the ground before winter, and it is usual to "muckle them over" with loose strawey dung, to preserve them from the frost. These are generally sown in land, that is proposed to be sown to turnips in the next summer; and are therefore got as forward as possible, so as to be eaten off in time for sowing the turnips.

The spring vetches are generally sown in a part of the "old field," that lies in course for wheat the ensuing autumn, and are eaten off, and the land sown to wheat. They are sown in successions during the spring months, so as to come in at different times of the summer.

RYE is frequently sown to be eat off with sheep, but not often suffered to stand for a crop.—The usual time of sowing it (August) makes it peculiarly proper to supply the failure of a crop after turnips, and it is not uncommon to harrow in the seed among a thin crop of turnips, and let both stand and be fed off together.

POTATOES have of late been very much cultivated in almost all parts of this district, but particularly on the sand lands. The general introduction of this valuable root, has been exceedingly fortunate for the labouring poor, of whose sustenance they now make a very considerable part, especially in a season when wheat is dear.

A remark has been often made in this district, as to the peculiar aptitude of potatoes to supply the want of wheat, viz. "that a bad season for wheat is generally a good one for potatoes." Although this, like other general remarks, is subject to exceptions, it is nevertheless founded in reason.

Bad crops of wheat are generally occasioned by extreme hard winters, or wet summers. In the former case, the misfortune is known soon enough to increase the quantity of potatoes planted: in the latter case, the wetness of a sum-

mer is peculiarly favourable to a potatoe crop. does not always hold good—a favourable rain, after a good wheat harvest (as in 1793) may bring in a fair crop of potatoes, and then both crops may be good.

The mode of preserving potatoes during winter in this district, is very simple; they being in general left in the ground, covered up in long narrow ridges of earth ("Pits") with an intermediate covering of dry straw. This is found to preserve them (in case they are not heavily pitted) during the severest winter frosts, when they were kept in houses.

Attempts have been lately made, and with success, to introduce potatoes as a crop in a regular system of husbandry, on the sand lands of this district. — Small farmers on that kind of land, who do not keep sheep, it turns to a very good account, particularly in the neighbourhood of Warminster, Lavington, &c. Their course is, 1. wheat; 2. barley; 3. clover mown and fallowed; 4. potatoes, and then wheat again.

And as this kind of land does not require earthen manure, the potatoes are got off in proper time for manure with the pot-dung for potatoes, which is the best manure for other succeeding crops. The remark of the poor man is, " That that they do better after clover than after wheat." If so, their course of husbandry is right. It is a very profitable one, particularly near great towns, where labour is easily bought, and potatoes easily sold.

The quantity planted on an acre, is usually from four to six sacks. The produce from fifty, one hundred and sixty, but one hundred is reckoned to be a full acre. The sack contains thirty-six gallons, and weighs about two hundred weight.

Several attempts have been made to apply potatoes as winter food for cattle. They have been tried " raw, boiled, and steamed,"—and upon all kinds of animals, viz. " pigs, sheep, oxen, and horses." There is some doubt of their nutritive quality.—The only question is, whether they can be raised cheap enough to answer this purpose.

The Bath Agriculture Society have published a most ingenious and elaborate series of experiments, made by Mr. Billingsley of Somersetshire, on fatting pigs with potatoes.—Mr. Crook of Tytherton, in North Wiltshire, and Mr. Gale of Stert in South Wiltshire, are making experiments on a large scale, to determine their merits in fatting oxen, in which they dress the potatoes with steam, (a very easy simple process) and give them to the cattle with a mixture of cut straw or hay.—The cattle being kept in houses or sheds, and finished with this food without any addition of corn.

Rotation of crops on the severalty farms.—After enumerating the rotation of crops usual in the common field system, and the attempts that have been made to approximate as near to good husbandry as can be done, 'till that system is abolished, it remains to notice what is the rotation of crops used by the farmers of this district, on the farms that are in severalty, with remarks on the apparent excellences and defects of each.

The principal soils under tillage in this district, have been already noticed to be the white land soil, the flinty loams, and the sand veins.

A great part of the farms, in this district, have lands of the two former kinds.—A few (and unfortunately but a few) have a share of the latter.

These soils being totally different in their nature, require, and when in good hands generally have, a totally different management; but as they usually adjoin to each other, and the transition is seldom sudden but gradual, that management is frequently, and sometimes, in particular seasons, unavoidably blended, and from thence comes an opinion, frequently entertained of the best Wiltshire farmers, “that they have no regular system of cropping.”

Course of sowing the white land soil.—The white land soil, being more peculiarly adapted to a wheat than any other crop, is frequently divided into only three shifts, so as to bring round the wheat crop as often as

possible. The common course is, 1. wheat; 2. barley with seeds; 3. clover, part fed, part mown, and "wintered," for wheat. This is, in fact, nothing but common field husbandry, and the most exhausting system that can be devised.

Many farmers have therefore, by way of an improvement on this system, omitted sowing grass seeds with their barley, and wintered it in half their second field, and winter fallowed the other half. They sowed it the third year to beans, peas, or vetches, preparatory to wheat, (this land being in general heavy and too wet for turnips) and did the same with the other half of the field in the next round, whereby no clover is sown later than every sixth year.

This seems to be the best system of *three-field* husbandry for land of this description. But there are many white land soils that will not produce stout crops under any *three-field* system, and therefore are usually the best farmers in a *four-field* course, viz. 1. winter barley or oats with seeds, 2. clover mown or fed, 3. fallow; 4. a *summer fallow* on the foulest part of the field, and peas, beans, or vetches on the rest.

This course of sowing keeps the land in heart, and produces good crops of wheat, and in general is not a bad system for land with clover; but if it does, the clover is likely to be destroyed by the turnips mentioned under the *three-field* husbandry, and will not come round but once in eight years.

The flinty loams.—The flinty loams, being the best land for barley, are generally kept in a course to that crop as often as possible. The common course is, 1. wheat; 2. barley with seeds; 3. clover mown and wintered in preparation for wheat. The practice of growing barley, excludes turnips *out of its natural place*, and it is common to sow part of the summer field for summer feeding, and turnips for fall-feeding. Turnips have all the field clear previous to wheat sowing, although this system of cropping, leaves no green manure for the sheep stock, and of course part of them

out to keeping, it is nevertheless the most general system practised on the lands of this description in this district.

The sand lands.—The sand land, which is undoubtedly the most useful land in the district, is *peculiarly so* when annexed to a down farm, as a depending soil to raise green winter food for sheep. A down farm that has sand land and water meadows, never is (or at least never ought to be) without green food for the sheep stock, at any time of the year.

This soil is peculiarly adapted to turnip husbandry, and is usually applied to it, but in a *variety of modes*, according to the variation of the quality of the soil, or according to the opinion of the occupier.

On the poorer or more gravelly parts of the sands, particularly about Zeals, Stourton, &c. the common (or Norfolk) course of turnip husbandry has frequently been tried.—1. wheat; 2. turnips fed off in winter or spring; 3. barley with seeds; 4. clover mowed or fed; and then “wheat on one earth.”—But many farmers have given up this course, under an idea that it was too exhausting, and wore out the “Staple of Land,” already too weak in itself; and although they got good crops of wheat, so long as the land would produce good crops of clover, yet of late, since the clovers have failed, the wheat crop succeeding them has also failed, or, at least, has been very weak and “knee sick;” and as a *weak* crop of wheat is always accompanied with a *strong* crop of weeds, the land could not be got sufficiently clean for a turnip crop, and was therefore foul during the whole round.

To remedy this they have adopted the following course: 1. wheat; 2. barley with seeds; 3. clover; 4. turnips to be fed off in October, November, and sometimes as late as December, and then wheat again. And notwithstanding in this course, the turnips are eaten off at a time when they are least wanted, and no provision is made for green winter food to winter the lambs at home, this system seems to be the most general on the sands of this description, throughout this district.

But

But those who have seen this error in its p
have adopted a five-field system on this kind o
1. wheat; 2. turnips; 3. barley and seeds;
5. fallow plowed early, and folded as close as p
paratory to wheat.

This alteration has been found to produce c
crops of wheat; and if means can be found to
land tiring with clover, or any other substi
adopted for it, so as to sow it less often, this m
the most complete system, for the sand land of
tion in this district.

In the deep sands, and sandy loams, which pa
the Pewsey Vale are so stiff as to be called clay
on the severalty farms are frequently sown to v
nately with beans, peas, vetches, turnips, and
more commonly in the following three-field
1. wheat; 2. half to beans, peas, or turnips
by vetches; and half to barley or oats with sec
by clover mown, the clover part being shifted
so as to have each part of the land under clo
in six years.

This system of sowing (and which the land
well) plainly points out this soil to be the mos
the county; and yet much of it still lies in
field state, and in many instances is of little val

The Down Lands, which are in a state of
rown according to the strength of the land
are good deep red land, and have been chalked,
four-field system; viz. wheat, barley, and t
grass, while the black land in general will
wheat after the first round of crops; but
rested some years, is usually broke up and so
then to rape, then to oats and ray grass, and
some years, till it is supposed capable of bear
like series of crops.

F A L L O W I N G.

The observations immediately preceding, shew the time the land is usually at rest previous to a wheat crop, and the Answer to the 11th Querry, that the farmers plough the down land as little as possible during that period; but on the heavy soils a winter and summer fallow, with three, and frequently four ploughings, are frequently given previous to a wheat crop, and a winter fallow, with, at least, three ploughings for a barley crop, provided the lands are in severalty, and not subject to common field customs.

The custom of South Wiltshire has been always to give a fallow for one year, and in the down land, frequently of two years, previous to a wheat crop; and formerly, in some of the poorer lands, a fallow year always succeeded every crop: but the word "Fallow" in this district, as well as in most others, has two significations; the one meaning a continued ploughing and pulverization of land, to make it lighter and get it clean from weeds, when made foul by repeated crops; and the other, a *mere rest* of the land when exhausted; but both under an idea of enabling it to bear a fresh succession of crops. But as both these practices, and particularly the latter, have been strongly reprobated by many writers on agriculture, and as strongly defended by Wiltshire farmers, it is necessary to enquire into the reasons given by the latter for a continuance of this mode of husbandry.

The science of agriculture is nothing more than "the art of knowing and curing Nature's defects;" and the great outlines of this science, are, the knowledge "how to make heavy land, lighter," and "light land, heavier;" "cold land, hotter," and "hot land, colder."—He that knows these secrets *is a farmer*; he that does not, *is no farmer*. But for want of attending to these general ideas, many absurd doctrines have been propagated respecting agriculture; and in no instance more, than in the article of fallowing land, which it has been very common of late to reprobate in the gross, as a mere waste of labour and loss of crops.

If by fallowing is meant repeated summer ploughings, it follows, that in some lands it is proper, in others totally wrong. It can never be right to make land lighter than is too light already; but there are few instances where strong heavy land can be pulverized too much. It may be said, this may as well be done under crops, as in a state of fallow—In some soils it may, in others it cannot.

In the richest part of the sand veins in South Wiltshire, particularly in the Pewsey Vale, fallowing by summer ploughings has been found to be totally improper. This kind of land will not bear a fallow; it can never be kept too close if it can be kept clean; and this (in such a kind of soil) can be done better with a crop than without one. In common fields, where the course on such land is two crops and a fallow, or, as in some, three crops and a fallow, the fallow year fills the land with more weeds, than can be got oat in the succeeding round of crops.

The advantages of putting this kind of land in severalty, will be afterwards noticed.

The down lands of this district will not bear fallowing, especially in hot, dry weather; they are too thin and too light already.

But when the objection against fallowing is made merely as the loss of a crop, it may be asked, "whether vegetable as well as animal strength, when exhausted, does not require both food and rest to restore it? and where less of the former can be got, recourse must be had to more of the latter. Every good Wiltshire farmer will say, that on the downs ~~a~~ two years rest, for wheat, is equal to the best coat of dung." Dung may give the quantity, but rest must give the quality.

The old custom of the tenantry fields of Wiltshire was always, and in all soils, to give a year's fallow previous to wheat; they did not, indeed, always plough the land, but left it to run to couch grass, thistles, and other weeds. The introduction of clover and ray grass, has abolished this in the three-field husbandry: there they cannot plough for wheat until after the grass crop is mown. In the four-field husbandry,

husbandry, where the clover is sown the second year, and mowed the third, the field becomes in the fourth year what is called in Wiltshire, "a summer field," and is ploughed up at different times, according to the custom of the different manors. In some instances, they give an outright winter and summer fallow; in others, they begin ploughing at Holyrood Day, (the third of May) in some as late as Midsummer.

The lands that are sown in a round of three fields, being usually the deepest and strongest, can have but little ploughing, although they want it most, the time being too short (after the clover crop is mown) to admit of it. Those which are lighter and farther from home, and usually sown in four fields, and which want the least ploughing, have frequently, or at least formerly had, the most. Such are the absurd consequences of a common-field system!

Although no improved system of agriculture, can possibly be introduced generally into common fields, yet there have not been wanting in the district of Wiltshire Downs, intelligent, enterprizing men, who have observed and remedied many of the errors of their forefathers, and particularly in the article of ploughing; and it would long since have undergone a total alteration, if tenantry fields could have been abolished. One of those errors certainly was, the pulverizing by repeated summer ploughings, land in high exposed situations, whose principal fault was being already too light: they saw that this management, and particularly when done near the time of sowing, fills the wheat crop with weeds, and particularly with the red poppy; that though the wheat grows very luxuriant in the winter, the March winds, especially after frosts, frequently blow the earth away from it, and leave it (as the Wiltshire phrase is) hung up by one leg, without any sustenance to the coronal roots, which the plant should at that time be forming; that the crop is in consequence "knee-sick" (that is, not strong enough in straw to support itself), and of course produces small thin ears.

Many modes have been introduced to prevent this evil, by giving a sufficient texture and firmness to the land previous to a wheat crop. The best farmers have made a point of getting their land clean ploughed by Midsummer, and treading it as firm as possible with the sheep-fold a long time before sowing; while the slovenly farmers have invented, and generally practise a very short and cheap way of attaining this firmness in the land. They rafter the land (as they call it), that is, they plough half of the land, and turn the grass side of the ploughed furrow on the land that is left unploughed. They do this as soon as they can spare the feed of the summer field, and leave it in that state till near the time of sowing, when they harrow it down and plough it for sowing. This rafter is usually ploughed *across* the ridges, or, what is better, *diagonally*; the latter mode being less subject to drive the land up in heaps before the plough.

The land thus raftered is sometimes ploughed twice, but more frequently only once, previous to sowing, and after it is sown, they drag it 2, 3, or 4 times, and harrow it 4, 5, or 6 times (viz. provincially speaking, they give it "so many *tine* with the *drag*, and so many with the *harrow*)."

It is wonderful how very general this raftering, or half ploughing, of land for wheat is in this district; it frequently produces as good a crop as the best management; but the foul state the land is left in for the next crop, must explode it as a system, whenever tenantry fields are put in a state of severalty.

The peculiar churlishness (provincially "clottiness") already mentioned to be in a great part of the lands of this district, arising, perhaps, from the cold nature of the sub-soil, makes this husbandry, bad as it is, to be preferred in general to sowing wheat on one earth, unless it be on the sand lands.

MANURES.

MANURES.

IT has been already remarked, that the general manure of this district is the sheep-fold.

This practice is continued through the whole year; but the great dependence on it, is for the barley crop.

In the common fields, sheep which are sent by the occupiers of yard-lands, are kept in one flock, by a common shepherd, and folded regularly over the whole field, shifting the fold every night. The size of the fold is regulated by the size of the field they have to cover, so as to get over the whole in time for sowing: but the usual rule is, to allow one thousand sheep, to fold what they call a tenantry acre (about three-fourths of a statute acre) per night: In dunging for wheat, the land near home, being in general the coldest and stiffest, usually gets most of the yard dung (or as it is here called pot dung); and this is frequently thrown over the land and folded upon (especially if the dung be light and not rotten), and then ploughed or rastered in, otherwise it is ploughed in previous to the folding.—South Wiltshire farmers seldom have dung enough to manure many acres; they depend solely on the sheep-fold for the rest: they fold as close to the sowing as possible, waiting day by day for the fold to keep pace with them, and in very dry weather, sometimes fold again after the wheat is sown. After the wheat is sown, the sheep-fold is sometimes, and very properly, put on the down land, but more usually on the wheat stubs, which are then getting in preparation for barley; but this dung is not reckoned of any great value until the ewes and lambs begin to go to the water meadows; it then becomes almost invaluable; and that of ewes is reckoned much more so than that of wethers, on account of the greater quantity of urine they make.

Five hundred ewes, with their lambs, will fold a tenantry acre in a night well, and none but those who have seen this kind of husbandry, can form a just idea of the value of the fold of a flock of ewes and lambs, coming immediately

mediately with bellies full of young quick grass from a good water meadow, and particularly how much it will increase the quantity and quality of a crop of barley. The value of it may fairly be taken at the value of a quarter of barley.

The circumstance already mentioned, that the flinty loams (the soils peculiarly adapted to barley) abound most in those parts where the county is flattest, and the rivers are widest, is peculiarly fortunate, because, as the water meadows are the most numerous in those situations, *barley land and its proper manure lie contiguous*, as is particularly the case in the neighbourhood of Sarum.

And the circumstance, of the land being deepest and strongest near the heads of the rivers, where the water-meads, however good in quality, must be small in quantity; and where, of course, few ewes can be kept, is not an unfavourable one, as such land being much more proper for wheat than barley, the *spring sheep-fold* is not so essentially necessary.

In many of the situations last mentioned, attempts have been sometimes made, to *plough in green crops for manure*; but the tenantry customs, have hitherto prevented its being carried to any great extent, and the divisions of the common fields have been too few, and too recent, to have made any new kind of husbandry as yet general. The only thing of the kind that can be adopted in a tenantry field, is frequently done with success; viz. that of sowing *vetches*, as a preparatory crop to wheat, particularly in heavy land. This is frequently done as a substitute for clover, and to prevent the land getting tired of the latter.

Top dressings are not in general use in this district.

Soot is sometimes used for wheat that is weak in the spring, and coal ashes frequently upon young clover, and, perhaps, more would be used if they could easily be got; but both soot and coal ashes are too dear and scarce to be used generally, unless near great towns.

About Devizes, great improvements have been made

upon the sands and sandy loams, by coal ashes, both arable and pasture land.

And in the Pewsey Vale about Maningford, much peat has been dug and burnt, and the ashes used with success. But the peat is not so good as that about Newbury in Berks.

Woollen rags are frequently used in the strong loams in the Cannings Vale, and with very great success.

The foregoing, are the principal manures that are in general use in this district, as temporary manures.

But there are some spots and veins of land, where chalk and lime are used as permanent manures, and are of very essential service—chalk is well known as a corrector of land that has acidity in it, or such as the Wiltshire farmers express it, “wants to be sweetened” to make it bear barley.

There are three kinds of land, on which chalk is used with success in this district.

1st. On the *red strong lands* on the highest part of the downs.

2dly. On the *sand veins*, particularly on those which are deep and tough, and are of the nature called in Wilts “liver f'nd.”

3dly. On the strong, *oak-ee clay*, or rather *loam*, in the valley at Mere, Sedgehill, and Semley.

The red strong land, on the high level parts of the downs, that has been once wood land, and (sometimes expressly called wood four land) is improved astonishingly by chalking. The chalk is generally dug under the surface, but too often too near the surface. The upper stratum of the chalk is hard, and not soluble, and will always remain in small broken pieces in the land, making the land loose, or, as it is provincially called, “rubbly.” It should be dug deeper from one great chalk pit, instead of many little ones, and should be carried in carts instead of wheelbarrows. The expence of chalking such land with wheelbarrows,

wheelbarrows, is seldom more than three pound sometimes as low as twenty-five shillings *.

The second kind of land, the deep tough run round the skirts of the downs, as is described to the first query, appear to have almost all chalked already, though many of done before the memory of man. The deep the edges of the downs, near those veins of sufficient proofs of it—and the idea is so strong land will not bear chalk a second time, that land was well or ill chalked at first, it is to be done for ever, and cannot be done again. Farmers are uniformly of opinion (as an old master pressed himself to me on my making the enquiry) “you may as well inoculate a man for the small pox as chalk land which has bad it already.” Surely this opinion is particular enquiry, and if the fact be so, how necessary that the due quantity of chalk be ascertained in the first instance? and how much better for the farmer to pay part of the expence, and have the land chalked, than leave it to tenants, who in many cases are ignorant what is the proper quantity, and in others, are unwilling to incur the expence of putting it on?

The difference now observable in the growth of the crops on different kinds of land, and that frequently within very small distances, may perhaps, in some degree, be accounted for by the circumstance of some lands having been well or ill chalked, and the contrast between the almost inexhaustible fertility of some of the best chalked land before the memory of man, shews the great improvement derived from a proper application of chalkable manure.

* The usual quantity of chalk, laid on land of this description, is about one wheelbarrow (or a cart load) on a square perch (viz. 160 square feet.) Autumn is the best season for laying it on, and it is said to require to lay 3 years before it is dissolved. The land should be ploughed, or light rafter about Christmas, and should the ground be dry, and the weather warm, when it may be clean ploughed, and will be fit for sowing wheat in 7 or 8 weeks afterwards.

But perhaps the greatest improvement made by chalk in this district, is in the deep strong lands about *Mere*, *Knoyle*, *Sedgehill*, and *Semley*. This is a low, flat country, under the foot of the chalk hills, the soil is here a strong deep loam, with a substratum of clay, over a very thick vein of blue marl. The soil is naturally poor, as appears by its abundant spontaneous production of oak trees. The occupiers of this land have long since known the use of *marl*, and have used it to great advantage. The customary way, was to lay it on preparatory to a crop of wheat, about 120 cart loads, or 80 waggon loads to an acre.

They then took six, eight, or ten, successive corn crops, and when the land was exhausted, laid it down to grass, to re-acquire by rest, what it had lost by exertion. But of late years they have introduced the use of *chalk*, which they fetch from the edge of the downs, to a distance of two or three miles, and lay on usually from twenty to near thirty waggon loads on an acre. They generally put the chalk on grass land immediately from the pit, and let it lie on the ground till it is flaked, which will sometimes be two or three years. This manure is usually applied to land intended to remain in a state of pasturage, (the country being in general applied to the dairy) and the improvement that has been made by it, even upon land previously exhausted by plowing, is astonishing, frequently to double, and sometimes treble its former value.

In some cases they put chalk on arable land, and then they generally put the chalk in heaps for a year or two, so as to flake it, previous to its being put on the land, but as this is followed by repeated crops of corn, the land is often laid down to grass in an exhausted state, the profit goes into the tenant's pocket, and the land is left but little the better for the chalking.

Lime is not used as a general manure in South Wiltshire; in general it is too dear for that purpose, the lime-kilns in the district scarcely providing sufficient for the purposes of building. Chalk is almost the only lime-stone in the dis-

strict; and though the greatest part of the hills are chalk, the veins are very different, and only a few of them are applied to the purposes of lime: perhaps more might be found equally applicable with those in use, and of course more lime might be used for manure; but the dearness of fuel prevents many attempts of the kind being made.

In those situations where lime can be got at a tolerably reasonable price, particularly in the neighbourhood of Warminster, it has been found to be a valuable manure on such of the sand veins as are thin and light, and particularly where they are mixed with gravel. The vein of poor gravelly soil, which runs parallel with the sand vein from Sir Richard Hoare's Tower, over Horningham, Deverill, and Warminster commons, is peculiarly adapted to lime. The Marquis of Bath has, for many years, used it in breaking up, and bringing into cultivation, that poor tract of this kind of land which he has annexed to his park.

It has generally been applied (in quantities of from twenty to thirty quarters per acre) on land nearly broke up, previous to a crop of wheat, and that with great success; but the greatest proofs of its utility, as a permanent manure on this kind of soil, are in Longleat park, where it has been applied (about twenty-five quarters to an acre) fresh from the kiln, upon the loose gravelly sides of the steep hills in a state of pasturage, and where, though the land was covered only with moss and coarse grass, the lime has brought vegetation so near the surface, and of course encouraged the growth of the finer grasses, especially of the annual poa and white trefoil, that the cattle, particularly sheep, feed upon it in preference to the best land in the park. And its effects do not appear to diminish, on those parts that were so manured twelve or fourteen years ago.

It has also been tried, with success, on those sandy arable lands, which were formerly chalked, but in which the effects of the chalk are wearing out.

But it is fair to remark, that there are some reasons to believe, (though it certainly merits further trial) that lime does not succeed a second time in sandy or gravelly soils,

where

where it was once used in large quantities as an “*alterative* & *manure* :” neither have any great effects been visible from its use, as an alterative, on strong clay pasture land, although the Marquis of Bath, and many other persons, have frequently tried it on such soils ; but when mixed with earth, and used as a top dressing, it has succeeded on land of that description, particularly when laid on after grafts, in July or August. And on the same kind of land, in an arable state, it has been frequently used as a top dressing for a wheat crop, with great success, and that repeatedly, on the same land.

The effects of lime, when used as an *alterative*, or as a *stimulus*, appear to be very different.

I shall not venture an opinion on the causes of this difference, but they are well worth investigation.

IMPLEMENT S OF HUSBAND RY:

THE ploughs used in this district, are chiefly of two kinds :

1. The hill country two-wheel plough, with the point of the beam elevated, and swinging upon a brace between the wheels, and the draft chain fixed almost at the centre of the beam.
2. The one-wheel plough, so made as to be used with a foot instead of a wheel, in case the land is so wet that the wheel clogs, and will not run round. These ploughs are about eight feet, or eight and an half long, in the beam, and have a long mould-board set at a very acute angle with the sole of the plough, and bent so as to turn down the furrow, or rather, that the furrow may drop from it, as flat as possible.

The two-wheel plough is chiefly used on thin, flinty land, where deep plowing would do mischief, and where, in plowing shallow, the stones are liable to strike the plough out

of ground. In such soils, the farmers are very fond of the two-wheel plough, which is much lighter, and more simple plough, would be better, provided it was always used by care plowmen; and the increase of good plowmen has induced them to prefer the two-wheel plough to be thrown by, in many districts, as expensive and cumbersome. The six-foot plough is the most general plough now in use in this district, as being applicable to light deep or shallow.

Many attempts have been made to introduce into the district, particularly the Norfolk, three-wheel ploughs, and the double-furrowed plough, but, with little success. Perhaps the reason may be, that the present common field state of the district, almost every farmer having heavy land to plow as well as light, and finding it difficult to manage his team in a day, and, what is worse, land that is frequently covered with couch, that the roots make as much resistance as the stones, and are continually choking up the plough.

These reasons have hitherto prevented a more simple ploughs from coming into general use. It is difficult to get rid of the old Wiltshire farmers must be taught to keep their teams in good condition before they can give up their old ploughs; and it will be impossible, in their present state of communitarianism, to get rid of them.

The same reasons have also hitherto operated against the introduction of the four-horse plough among the farmers in this district almost continually plowing up and down on account of the narrowness of the roads, and the steep hills, which they are frequently obliged to pass. Their heavy weight, and the want of level, thin, flinty loams, might almost be plowed up and down on account of the narrowness of the roads, and the steep hills, which they are frequently obliged to pass. Their heavy weight, and the want of level, thin, flinty loams, might almost be plowed up and down on account of the narrowness of the roads, and the steep hills, which they are frequently obliged to pass. Their heavy weight, and the want of level, thin, flinty loams, might almost be plowed up and down on account of the narrowness of the roads, and the steep hills, which they are frequently obliged to pass. Their heavy weight, and the want of level, thin, flinty loams, might almost be plowed up and down on account of the narrowness of the roads, and the steep hills, which they are frequently obliged to pass.

Those farmers who have their land in several large pieces, are not behind-hand in introducing ploughs calculated for their respective soils. But

of the common field farmers is so great, as to have given the county an almost general character of being bad plowmen, without considering that it is necessity, and not want of judgment, that makes them so.

Both carts and waggons are used in this district, for carrying out dung, but only waggons for hay and corn.

The carts (or as they are provincially called dung pots) are made deep and capacious, on purpose for carrying out dung, and are almost too heavy and too clumsy for any thing else; indeed, they would be almost too heavy for a horse, were it not that, in consequence of the general situation of Wiltshire farm yards, the greatest part of the dung is to be carried up hill. They are seldom drawn with less than three horses, and frequently with more.

The waggons are rather handsome than otherwise, but are in general made too heavy. They are made with a crooked bed, about twelve feet long, and four feet wide, and in general run near six feet wide on the ground. They have a narrow kave, just to cover the wheels, but seldom use any overlays or outriggers, either at the ends or sides; the large size of the bed, and the general mode of binding the loads of hay and corn with a waggon line, on account of the steepness of the hills, enabling them to carry large loads, without that assistance.

A Wiltshire narrow wheel waggon is generally about four feet four inches high in the fore wheels, and five feet eight inches in the hind wheels, and weighs from nineteen to twenty-two hundred weight.

The same kind of harrow is used in this district, and in almost the same way as in all the western counties. Two or three horses go abreast, each pulling a harrow diagonally, all the harrows being fastened together with a layover (provincially a rider).

They use a very heavy kind of drag for cleansing their land, with strong iron tines, of near a foot in length. This drag is made oblong, and two of them are hooked together like two doors. It has been already said, that Wiltshire

down farmers are very cautious of plowing much, and on that account they make mud drags instead of plowing, and frequently let in with them. This idea having been found to gradually improved upon. For some years triangular machine was used, called an A. tines so fixed on its three sides, as that, when point, it made parallel furrows eight or nine inches apart. On these furrows, they sowed their wheat afterwards, by lightly harrowing the ground section as the furrows, they got a great part the furrows, and the rest took its chance.

But this machine not going perfectly still further improved, by putting the tines beams, usually four before, at distances of and five behind, working between them, so parallel furrows of nine inches apart. This like a drill-plough, and held by two handles called a nine-share plough, or, where made with an eleven-share plough.

The shape of the tines has also been of being strait, they are bent at bottom; the and hollow, and the foot solid and pointed made strong enough to root up the ground, into furrows of a proper depth for sowing. rows they sow their corn, as above described

All these attempts, though answering the land as solid as possible, were only applicable towards drill ploughs; but with this difference, the seed was deposited at improper depths, & the birds. A few good farmers have seen introduced drill ploughs, and used them with success. Many kinds of drill ploughs have been used, the plough, invented by Mr. Moses Boorne, of New-Hampshire, is said to be most general, especially for the purpose of sowing grain in a kind of *half-plowed* hill land, in which drill ploughs hitherto been used. This kind of plough is

at divers widths, but in land that does not require hoeing, from four inches and an half to six inches and an half, seems to be the distance most in use for wheat.

In exposed situations, the general custom is to drill from east to west, and not from north to south, to prevent the corn from being hurt by the south sun, before it is thick enough to cover the ground.

In the sand veins of this district, drilling of all kinds of corn seems to be getting very fast in use. In such soils, where the use of the hoe is one of the greatest advantages to be derived from drilling, Mr. Cooke's plough (so made as to be afterwards used for horse hoeing) is chiefly used.

Comparison between drill-husbandry and broad-cast.—It is not for me to decide on a subject, on which both the best writers and the best farmers in the kingdom, have so long been divided in opinion; viz. “Whether the drill husbandry is or is not superior to the broad-cast?” They have both, undoubtedly, their merits, or neither of them would have been so long, and so ably defended. Different soils and situations require different management—Why may not some be particularly adapted to one kind of husbandry, and some to the other? What are the Wiltshire drag ploughs, but imperfect drill ploughs? And if the drag ploughs have been found, by thirty years experience on Wiltshire downs, to have insured good stout clean crops of wheat, surely the application of a drill box to the *very same instrument*, so as to deposit all the corn at *one* depth, must be an improvement—so much for the down land.—As for the sand land, the greatest enemies of drill ploughs allow their use in land in which the seeds of all weeds being sure to vegetate, repeated howings are necessary to prevent their choking the corn. If there are any who doubt it, the *sand veins* of Wiltshire will convince them; but they must come soon. In seven years time, or less, if the land can be put into severality,

severalty, they will, in all probability, scarcely find a *broad-
cast sand-farmer* in the county.

Perhaps *strong clays* may furnish objections to drilling, and particularly to *drilling wheat*. Undoubtedly, the reasons given for drilling upon Wiltshire hills, do not apply to land of this description; nor does such land require *bowing*, like the sandy soils. But it ought to be considered, that *nature* supplies the use of the drill plough in strong clays, especially under their favorite crop—"wheat." The clods, at the time of sowing, are a gage to determine the proper depth of every wheat corn; and the pulverization of those clods by the winter frosts and the March winds, is the hoeing of *nature*, instead of that of *art*; and as in such soils the weeds are too few, and grow too slow, to do any mischief, no other hoeing is in general wanted.

It may be laid, that time and experience will one day decide this argument; but reason must also be called in to determine, how far the *influence of particular seasons* may affect experiments in *particular years*. It is this influence, and not want of observation in farmers, that has hitherto prevented, and will always prevent, agriculture from being reduced to *one general invariable system*. "What is right "*one year, and even for years together, may another year be wrong*; and that farmer, who happens to suffer severely by pursuing a *right system* in a *wrong year*, is shy of it for ever after; especially if he has suffered by deviating from *any old mode*, to which a popular opinion has been long attached. In this case, he not only suffers the loss of his property, but is sure to be laughed at by all his neighbours, and even by his own labourers.

In many of the light lands, where plowing is very little required, unless to destroy the weeds, Mr. Cooke's instrument, called a *scuffer*, which will clean five or six acres of land per day, has been used with great success, and particularly preparatory to drilling. But this instrument is not yet enough known, to be in general use.

As to the proper depth of plowing, Wiltshire farmers are particularly cautious not to plow *below the top soil*. Wherever

ever there is a vein of rubbly chalk, or small broken flints, immediately under the top soil, they look upon them to be literally "the dross of the land;" and that, if they are plowed up, they are "poison." Many instances are shewn, where lands of this kind, plowed too deep (frequently single acres in large tenantry fields) upwards of twenty years ago, has not yet recovered its former goodness. And to preserve this top soil as *deep* as possible, the best farmers will not permit the *surface flints* to be picked off for the roads, for fear of making the land both lighter and thinner. But in the *sand veins*, where there is a great depth of top soil, especially about Lavington, it is not uncommon to plow very deep; and frequently to have a second plough following in the furrow of the first, so as to throw up *new* soil, and bury that which is supposed to be exhausted.

CATTLE used in PLOVING.

OXEN are not in general use in this district; and in some parts of it, perhaps, not so much as formerly, when there were more common cow-downs; and it is very probable, that the gradual decrease of cow-downs, which will be the consequence of the lands being put into severalty, will tend gradually to reduce the use of oxen, especially in the hilly parts of this district. And although those downs might, in many cases, be much more profitably applied to the keeping of working oxen than of cows; yet, if the present rage for fine sheep continues, every other kind of stock must give way to them, and as soon as the cows are driven off the downs, the oxen must immediately follow.

In the sand veins, where the land runs kindly to pasture, the putting the common-fields in severalty will, perhaps, have the contrary effect. It is not that the arguments, which have been so often and so successfully used on the comparative advantages of using oxen instead of horses, are not known, or not understood, in Wiltshire. There are

local reasons peculiar to many parts of this district, which will prevent oxen from coming into general use. The first, and principal, is, the present scarcity of *inclosed pasture land*, and the inaptitude of a large portion of the soil of the district to make more. The next is, the peculiar difficulty of using them on the *public roads*, on account of the distance of many farms from a market, the steepness of the hills, and the stintiness of the roads. This last reason necessarily obliging every farmer, who carries corn to market, to keep at least six horses, the use of oxen is, in a great measure, superseded among the *small farmers*; and the large ones are, unfortunately, not only in Wiltshire, but in most other counties, too fond of *large fine horses*, and their men too fond of shewing them, to give them up readily for oxen. There are, however, some exceptions to this remark. Some of the most intelligent farmers persevere in the use of oxen, and find them (especially since they have exchanged the yoke for the collar) to answer a very good purpose. As a shifting stock, where a farmer wants more strength at one time of the year than another, oxen are peculiarly proper, being more easily bought and sold, and that at a less loss or risque than horses. And where a farmer has a quantity of rough down land, I am clearly of opinion, that the treading of a few oxen, will increase the sheep-feed more than their eating will diminish it. I have seen so many instances of downs decreasing in goodness, when changed from cow-downs to sheep-downs, as to convince me fully of this fact.

SEED-TIME and HARVEST.

THE usual seed-time for wheat, necessarily varies in the different soils of this district.

A certain quantity of rain is necessary to sow the down land: they generally begin with the first rains in September. It was customary, formerly, to sow much earlier on this kind of land; but they now find it better to let the land lie, and

and get as close as possible, before sowing, which prevents the wheat from being *winter proud*, and sometimes from being eaten up by the grub.

The white land is next sown, and then the flinty loams; and last of all the sand, which is not uncommon to sow sometimes as late as Christmas; especially when they sow wheat after turnips; which though, perhaps, not strictly reconcileable to the rules of good husbandry, is not an uncommon thing on the sand lands of this district.

Barley is sown later in Wiltshire than in most counties. There is a certain degree of coldness in the land in general, which prevents the fallows working so early as they do in Hertfordshire, and many other counties; and as the dependence for a barley crop is so much upon the water-mead fold, the time of sowing is regulated by the growth of the water-mead grass, so as to begin when the time of spring feeding begins, and to end when that ends. Perhaps this may, on an average, be from the fifteenth of March to the twenty-fifth of April. The Wiltshire proverb is, that "barley will do, if it has a May dew;" and they carry this so far, as frequently to injure their crop much by sowing too late.

The quantity of seed sown to an acre is different in different parts of the district, and at different seasons; but, in general, Wiltshire farmers "sow very thick." In broadcast husbandry four bushels (Winchester) of wheat are frequently sown; seldom so little as two and a half: of barley, sometimes six bushels; seldom so little as five: of oats, sometimes a quarter; seldom less than six bushels. The farmers of this district are very particular in changing their seed, not only from a different soil, but, if possible, from a distant country, under an idea, which experience shews to be well-founded, that "Nature rejoices in change;" and they never omit liming and brining their seed wheat; and many make a practice of soaking their seed barley previous to sowing.

Wheat harvest.—The wheat harvest is usually as early on the Wiltshire downs as in most parts of England; and as

their corn is seldom full of weeds, they usually or four days after the corn is cut; and sometimes from the hook, without putting it in mows, in Somersetshire and Devon. But of late years has been uncommon to cut the wheat before the ears are ripe, especially if there is any appearance of blight. In that case they lay it down in gripe, (as the ears hanging into the furrow, so as to receive as much of the dews as possible, and turn it for two or three days before they bind it in sheaf. This is done to prove the grain (provincially the berry) in as to increase the quantity. The general custom in Shire, is, to set up the sheafs in double rows, two sheaves together, (provincially a tything) for the tything-man; and the sheaves so set in a aisle. The wheat is usually cut remarkably early in this district; and they prefer ploughing-in the straw, as is the case in counties where wheat is scarce.

The barley and oat crops, are almost universally cut with a scythe in this district. They are cut enough in the straw to require sheaving, and then carried from the swath into cocks, or pooks, and then bound by hand.

Although wheat ripens well, and comparatively early in this district, the case is very different, in comparison with the barley crop. Of the three principal soils which compose this district, viz. "flinty loam," "sand," and "flock," barley seldom ripens kindly in the former. A wet or dry seed time will not affect the latter two.

In a wet seed time, the white land runs like melted lead, and ruins the crops; and in a dry year, when the barley is sown on the sand land frequently combs, or "shares," and ripens unequally; and on bad ground the barley usually ripens very late, and is frequently of bad quality. In this present summer (1793) the flinty loam about Salisbury was harvested

earlier than that on the sands about Maiden Bradley, and on the white lands about Broad-Hinton, notwithstanding the weather was particularly hot and dry the greatest part of the time. Query, if this circumstance does not point out the impropriety of making barley a depending crop on either of these kinds of land? The farmers on the sand vein, in the Pewsey Vale, seem to be of this opinion, and generally adopt pease, beans, vetches, &c. as a substitute for a barley crop; and on the white lands in Broad-Hinton Vale, the farmers allow barley to be a losing crop, although they have as yet adopted no substitute for it.

General produce of crops.—The general produce of crops of corn is not so great, per acre, in this district, as in many other parts of the kingdom. A good *medium crop*, may fairly be taken at the following number of Winchester bushels, including the tythe, viz.. wheat, 22 bushels; barley, 28⁵; oats, 36 bushels.

W A S T E L A N D S.

THE idea that Wiltshire Downs (and particularly Salisbury Plain) are all “waste land,” is so general, that few who have travelled over them, especially from Devizes to Salisbury, will believe the contrary.

But in the common accepted sense of the word “waste lands,” viz. “land in a state of nature capable of cultivation, but of very little value in its present condition,” Wiltshire downs are undoubtedly “not waste land;” and although there are many inconveniences in their present mode of occupation, it will, perhaps, not be very easy to prove, that they do not produce *more food*, in their present hard-stocked state, than they will (or at least than such lands usually do) when in a *state of severalty*, especially as a great proportion of them cannot be improved by tillage.

There.

There is on Marlborough downs a tract of some hundred acres of land, called "Albourn Chace," which may truly be called "waste land," and, in its present situation, a blot in the county, being merely a cow common all the summer; while the sheep, for which a great part of it is much better calculated, are starving for want of it.

There are, in every part of this district, common meadows, which, though valuable in their present state, might be made much more so, if put in a state of severalty: and there are many common marshes, which might be improved by inclosing; but these are, in general, small; and it may be said, with truth, that there are no very extensive tracts of waste land in this district. But in another sense of the word, "waste land," viz. land already cultivated, but in a defective manner, "common-fields may be called the worst of all wastes." Common-pastures may, in some instances, be made the most of, by mutual agreement, without a division; but common-fields never can.

INCLOSED LANDS.

IT has been already remarked, and the assertion is founded on an accurate enquiry and observation, that at this time the greatest half of the parishes in this district are wholly, or partly, in a common-field state. Reasons have also been given, why it has so long remained in that state, on account of the peculiar shape and situation of a great number of manors, and the local difficulties attending a division. And these reasons have hitherto operated to preserve many of them in that state, though proposals are daily made for a division.

Many advantages, it is certain, have been derived from inclosures already made; and it may be proper now to state, the probable advantages to be expected from inclosing, or at least dividing, and putting in severalty, those lands now in a state of commonage, with the most practical means of obvi-

ating such disadvantages as will necessarily arise from a new order of things, in a country less favourable than many others, to improvements of this kind.

Disadvantages of the Common Field Husbandry.

The peculiar disadvantages, attending the common field-state of husbandry in this district, have already been said to be, the obligation of plowing and cropping *all kinds of soil* alike; the almost total preclusion that a common flock makes to any *improvement of sheep stock*, the difficulty, and in some instances, the impossibility of raising sufficient *hay* or *green winter food* for the stock; and particularly the very great expence and trouble, and the additional number of *horses* necessary, in occupying lands in detached and dispersed situations.

Advantages to be derived from its Abolition.

The advantages to be necessarily derived from an abolition of these impediments to good husbandry, need not be enlarged upon; they speak for themselves: but it must be remarked, that, in many parts of this district, these advantages apply much more forcibly to the case of the great farmer, than of the small one.

It has been already remarked, that the commonable lands of this district consist usually of three or four arable fields, a common sheep down, sometimes a common cow down, and, in some instances, a common meadow. The custom of a division has been, to give every land-owner an allotment of arable land, in one or more of the fields; a sheep down as near the arable land as possible, and a portion of the common meadows, if there are any. But of these, it is seldom thought necessary to *inclose* any but the common meadows, and perhaps a small part of the arable near home.

The farmer of one hundred and fifty, or two hundred pounds a year, will, perhaps, be able, in consequence of having his land put in large pieces, to reduce his number of horses

horses ~~one-third~~; he will be able to sow clover for hay, and raise turnips and rape for winter sheep; of course, he will not only be enabled to flock, but to winter them at home; and though of husbandry, he must reduce his number of ~~as~~ he will, by his additional number of sheep, b his land so much better, that he will raise ~~as~~ he did before.

Not so with the occupier of twenty pounds Wiltshire downs. He will certainly have the benefit of having his land brought together in ~~several~~ It seldom happens, that he could plow his land with three horses before such a division, neither more with less. He has no inclosed pasture to put ~~nor~~ common to turn them on. His right being too small, to make it worth his while to wait for a sheep down, (of perhaps twenty acres from home) he takes an increase to his arable fields near home, in lieu of it. But now ~~he~~ can keep ~~no~~ sheep on this allotment, nor would it be worth employing a shepherd for so few, if he could. He cannot dung his land, because having little or no cow commons, he can keep ~~no~~ cows to eat his straw; and the arable land being in general turned to grass, he is prevented from improving it, and laying it down to pasture.

It may be answered, that the peculiar locality of this district is such, that it was not calculated for the separate occupation of farms of twenty pounds though the owner of such a one cannot live in it in a state of severality, and is really injured by occupying it himself, yet he may let it for one pound, he could when it was in a state of tenantry.

I allow this argument in its full force; but required to colonize a parish in South Wiltshire, it would be prudent to make the division of farms so large as even forty pounds per annum. But men of property are already here; they are settled on the spot.

instances their own. Justice will not let them be dispossessed without their consent. Policy and humanity forbid they should be injured, even with their consent.

These difficulties are all obviated in those cases where there are veins of sand land. There the little farmer has really the advantage of the great one; provided the allotment of the former is placed, as it ought to be, in that kind of land, and this should be the first object in all inclosures, where there is land of that description.

Great part of the *sand land* in this district, is peculiarly applicable to all the purposes of a *small farmer*, or, as it perhaps may be better termed, a *garden farmer*.

As quickset hedges will grow well upon it, it may easily be inclosed, and it will, if required, turn readily to pasture, so that cows may be kept on one part to make dung for the rest.

If *sheep folding* is necessary, crops of clover for hay, and of turnips for winter food, may be raised, on which *sheep* from the down-farmers may always be taken in *to winter*; and with proper manure, such land will bear perpetual crops of almost any kind of corn that may be required. And such land is peculiarly applicable to the culture of *potatoes, pease*, and such other crops as are the particular province of a *small farmer*, and in which he may, if he pleases, use the spade instead of the plough.

These ideas are *not chimerical*, they are already carried into practice in several sand parishes, that have been lately inclosed in this district; and the improvement, in many instances, has been almost inconceivable.

But in those parts of the district where there are no sand veins, it is, as has been already stated, difficult to *mend* the situation of the little farmers by a general inclosure. There is a mode, whereby they may at least be secured from being injured, and this has been adopted in some late inclosures, by setting out the allotments of arable land, to men of that description, adjoining to each other, in one or more of the fields, and directing the same to remain still in *an uninclosed state*, with a common right of sheep feed for each person over

M the

the whole, and with a common allotment of down another of water meadow, if it is to be had, and some inclosed pasture to each if possible. circumstances, men of small property will be enabled to keep a common flock of sheep, and shepherd to attend them as they do now, and some degree, better their situation, because their land is laid in large pieces; and as the rules by which the *par-common*, will be settled by the authority of the owners of the inclosure, they will not be liable to be injured by each other, or by their more op-

hours. Notwithstanding some little sacrifices may be made to the interest and comfort of the small farmers by the inclosure of the commonable fields, and other lands of a manor, by laying their allotments near in soils and situations the most adapted to their cultivation, it is very easy to prove, that the great farmers were very considerably benefited, as well as accommodated, though, on account of the oblong shape of a great manor in this district, the great farmers will be obliged to take a great part of their arable land distance from home, yet it will have the additional advantage of being near its *natural dunghill*, the sheep downland will of course be valued low on account of the owners will be enabled to bear the expence of carrying the barns to it; and, in effect, "bring the land near," reducing the trouble and expence of carrying the corn home.

South Wiltsire not so improvable, by Division of Fields, as many other Counties.

After all it must be allowed, for the reasons already and fully stated, that on account of the peculiarities of many of the manors in this district, the general state of the land, and the modes of husbandry necessary

sued therin, that the *difference of rent and produce between common field lands and lands laid in severalty*, though in many cases very considerable, is *not so great as in many counties where those reasons do not exist.*

But, surely, because the value of estates *cannot be trebled* by an inclosure, in some parts of this district, as they have been in some counties, it does not follow that an improvement of *one-half*, or even *one-third*, on the present rent, is not an object worth attending to, especially when it is to be attended with the pleasure that every man feels, in occupying land in the *way he pleases*, and applying it to the *uses* for which nature designed it, without being subject to the caprice or ignorance of his neighbours. And, particularly, when it enables him to provide sufficient winter-food for his sheep stock, without being obliged to buy hay for them, or to put them out to be kept by others. But in the article of the *expence*, of a general division of commonable lands, (which in some counties is a very serious consideration) South Wiltshire, and the other *sheep-folding districts*, have great advantage, as it is seldom necessary to fence the new allotments, except, perhaps, a small quantity of land near home.

In these counties, where sheep are folded every night, and never without a shepherd in the day, hedges are seldom necessary for the distant lands. And, indeed, there are many situations in South Wiltshire, in which hedges would never grow to perfection.

But in every division of commonable lands in this district, it should always be kept in view, that a lasting improvement in the *land*, and not merely a temporary one in the *rent*, is the great object of all inclosures. The soil of Wiltshire downs is of that kind, that *it may soon be made worse*, under unskilful hands. A state of "*severalty*," where every farmer can manage his land as he pleases, is certainly infinitely preferable to one of tenantry, where every one is alike obliged to pursue the same husbandry. But it must be remembered, that although a common field system of husbandry does not make the land *better*, it keeps it from growing *worse*; and as all men are not equally good judges of agriculture,

ture, there have been instances, without any industry of the tenants, but merely by their bad plan of husbandry, where the produce of a manor, has absolutely been less both in corn a division of common field lands, than before that however the rent might be improved, the husbandry was not so. In short, the remark has been made, that "severalty makes a good farm a bad one worse."

These errors have proceeded, principally, stocking or overplowing, or both," viz. either their "sheep stock," (the basis of Wiltshire husbandry) under an idea of keeping it better already pointed out; or by reducing its means by plowing the down, and increasing the quantity of tillage, an error that has also been already

It cannot be too often repeated, how important a sheep-fold is to Wiltshire husbandry—In the common fields in this district, it should, therefore, be the first object of commissioners, to enable every farmer to have up a proper *sheep stock*, by allotments of those farms which are necessary to support that flock; and if it can be had; but, above all, a proper *sheep-down*, sufficient to support the arable land. This highly behoves the owners of those farms, who look forward to the good of their heirs (and themselves) to take care in letting such farms, that they may not be put out of the course of husbandry, that it be put out of the power of the farmer to make them worse. Every farmer who is in the habit of plowing down land, should heartily agree to this; every one that is obliged to do it, should be obliged to agree to it.

It is not here meant, that no downs should be broken up—A farm may, in some instances, consist of much down land, and some part of it, provided it is not too steep, may be broken up to advantage.—Reasons may be given, that one sort of down (the strong and stony) will not pay for breaking, while another (the loose boulders) may be ruined by it—Care should therefore be

no account land of the latter description should be broken at all; and that even if it should happen, that the whole of the down land be of the former description, it should be always remembered, that a farm of "mere arable land alone," is not calculated for Wiltshire downs.

It may be said, that these arguments are confuted by the plain fact, "that even the sweetest and best pasture lands on the downs will yield a greater rent, provided tenants are allowed to break them up; and, therefore, that such breaking up must be *an improvement to an estate.*" Long experience has shewn, that though this fact cannot be denied, yet the inference deduced from it is exceedingly fallacious.

The arable land of a Wiltshire down farm, is maintained by the dung of the sheep fed on the sheep down.—Deprive this farm of its down, and how is the arable land to be maintained? It may be answered, "by raising artificial grasses on the down land that is broken up." But will such a land always bear artificial grasses? Undoubtedly it will, *for a time*, bear "good crops;" but downs of that description will soon cease to bear *any at all*. What is then to become of the arable land? Every unbiassed farmer who has known this district, and observed its husbandry for the last 30 years, can answer this question.

And in this place it may not be improper to observe, that this error, to which the improper breaking, and the consequent impoverishment of much of the down lands, have been owing, has been a custom of computing the value of them, in their present state, *too low*, and the arable land, *which is supported by them, too high.*

For example, suppose a farm of 200 acres of arable land, and 200 acres of down, and the rent 150*l.* per annum; viz. 7*s.* 6*d.* for *each* acre. It is very common, in speaking of such a farm, to say the arable is let at 12*s.* and the down at 3*s.* per acre; and still more common to say, the arable is let at 15*s.* and the down given into the bargain; when possibly the truth is, that the down is of more intrinsic value.

value than many parts of the arable land, and poor because all its produce is carried off, and manure made to it.

An offer of advancing the rent of the downings per acre, is caught at by the landlord at present, without considering, that his arable land, privided of the down, will gradually get worse; farm will, in a few years, be worth much less in its former state *.

EFFECTS of INCLOSURES on POPULATION

THE population of the manufacturing part has increased rapidly during this century, while villages at a distance from manufactures decreased; but the inclosures of open lands have been too few, and, in general, too recent, to have any sensible effects on its population. Other causes contributed to these effects; but the effect of inclosures, and the consequent improvement in agriculture, will follow them, will hereafter have on the population of this district, is very obvious.

South Wiltshire is the granary, not only of the manufacturing towns within the county, but also

* There is one striking instance, that shews the real value of inclosure in its proper light, in the parish of Monkton Deverill. A large field, called Keesley, has been for time immemorial kept and grazed as a sheep-sleight. It has no arable land annexed, and therefore all the sheep that feed it being folded on it.

The country that surrounds it is like Wiltshire downs "half arable and half down;" and the sheep fed on the former; but so little is the improvement, by keeping the land arable, that every acre of the sheep-sleight is let for a sum equal to an adjoining acre of arable land, with an acre of down annexed.

east part of Somersetshire, and sends very considerable quantities of wheat and barley to the cities of Bath and Bristol.

Every inclosure must have improvement for its object; that improvement must be derived from an increased produce; and that produce, being chiefly human food, must be capable of supporting a greater population—SOMEWHERE.

But the effect of those inclosures, as to individual parishes, will be different; in some it will increase population, in others it will diminish it, according as the nature of the soil, when applied in consequence of an inclosure, to the purposes for which Nature designed it, requires more or less manual labour for its cultivation.

The common argument, on the influence that inclosures have upon population in a corn country, is this; viz.

“Arable land requires more *manual labour* than pasture. “Those inclosures, therefore, which tend to increase the “quantity of arable land, or the quantity of produce on the “same quantity of arable land, must certainly increase the “population on the spot, besides furnishing the market with “an increased quantity of food for an increased population “elsewhere.”

This argument, though very plausible, and taken in the abstract perfectly true, will not apply to South Wiltshire in general, and particularly to the villages on the downs. The abolition of common fields, will naturally be followed by a gradual abolition of life-hold tenures, and the latter will be as naturally followed by a consolidation of small farms. This alteration will, undoubtedly, decrease the number of *farmers*; and as the large farmers will be able to cultivate the same land, with proportionably less horses and servants than small farmers can do, it will also decrease the number of *labourers*: and yet, notwithstanding this reduction, the great farmers will be enabled to send a greater quantity of provisions to the market, and, of course, to feed an increased population elsewhere.

It may be said, in answer, that no hands will be thrown out

of employ but such as are unnecessary; and that such as are uselessly employed in agriculture, are of no real service to the community, and would be much better employed in manufactures.

How far this *shifting of population* from villages to towns, may be right or wrong, it is not my province to determine.

It does not follow, that if no inclosures were made, no consolidation of farms would take place. The contrary is the fact; consolidations of small estates, whether held by lives, or rented at rack rent, are every day taking place in the parishes where common fields still remain, and for a very obvious reason; because, on the system of Wiltshire-down farming, the saving of expence in managing two or three small estates together, enables a farmer who is already in possession of a *small estate*, to give more rent for *another*, than any farmer, who means to occupy it *separately*, can afford to do.

An inclosure only tends to *hasten* an effect, that a number of causes would in time bring on *without it*; viz. to bring farms to such a size, that the greatest proportionable produce may be obtained from them, at the least proportionable expence.

PRICE of LABOUR.

THE price of labour varies very much in different parts of the county of Wilts, and is chiefly affected by proximity to, or distance from, the manufacturing towns.

In a great part of the South Wiltshire district, where the inhabitants are very little under the influence of manufacturing prices, the prices of labourers in husbandry are nearly uniform; but these prices have been gradually on the advance.

Twenty years ago, the common winter price was ten-pence a day, from thence it gradually rose to twelve-pence,

which area they had affected the general price, though in many instances it is risen to greater prices.^{*}

The price of labour is usually the same throughout the year, excepting during harvest, when an advance is given either in money, or by an addition of victuals and drink.

If the advance is in money, it is usually three shillings per week, and thus remunerative for less or even no work; but this advance is variable both in price and consequence, according to the plenty of labourers, and the length of the harvest.

"The hay-making of South Wiltshire, employs (comparatively speaking,) but few hands. It is certainly not thought of so much as in quantity as it should be: quantity instead of quality, is the chief object. If the resident labourers, with their families, are not sufficient to do it in proper time, it is too often deferred till they are; what is waiting in strength, is too often made up in time." The consequence is, that neither the quality of the hay, nor the neatness of the ricks, are much attended to. It is in the management of the corn harvest, in which the South Wiltshire farmers shine, and not in hay-making.

In the corn districts, the resident labourers are seldom numerous enough to get in the harvest. "Taskers," or "labourers, by compact," from the more populous parts of the county, or from Somersetshire, or other neighbouring counties, take the wheat by the acre to reap. The price is about six shillings per acre, in good seasons, with an allowance of small beer, and a supper once, twice, or oftener, per week. The wives and children of the resident labourers also assist in this operation, while the resident labourers are fully employed in securing the corn.

The Wiltshire farmers are very generous in the article of "leazing," the children of the resident labourers being seldom hindered from gleaning, even before the corn is carried off.

* In many parts of this district, the corn is thrashed by the bushel, and not by the day, but the latter is the more general custom.

In cutting the lent corn, few "taskers" the resident labourers being generally sufficient is seldom higher than eighteen-pence per acre and one shilling for poaking, &c.; the raking women and children, by the day.

The prices of women's labour in South W eight-pence a day during hay-making and ha pence a day the rest of the year; and genera addition of beer, except in harvest, when commonly allowed.

The hours at which labour commences a but little in this district.

In winter, the labourers work, of course, fr dark; in summer, usually from six to six, making and harvest, when they are expected and late. But the hours of rest vary consider parts, half an hour is allowed for breakfast, a dinner; in others, an hour for each; and in meal, of an hour, is allowed, (from eleven during November, December, and January.

The ploughmen usually go out at eight four, except in hay-making and harvest, an urgency. The distance of the lands of a from home, prevents the custom that is counties, of making two journeys a day, and them.

Wiltshire labourers, in general, are strong not deficient in expertness, in what they und branches (hurdle and hedge making forous. But there is a remarkable slowness only of the shepherds, whose laziness is pro particularly of the ploughmen, and which the horses, that is noticed by every person who hours of other counties, particularly Norf mon step of a ploughman and his horses, tional county, is often three miles and an In South Wiltshire, frequently little more

If the quick step of the Norfolk ploughman, proceeds from the dryness and cleanness of the lands of that county, it is possible, that the dirtiness, and, in particular, the "clinging-ness" of the Wiltshire white lands, may tend to slacken the step of the Wiltshire ploughman. But on whatever sort of soil this slow step was learnt, it is certain it is now practised equally on all.

Farmers are greater sufferers than they imagine, by this habitual indolence of their workmen; and it is not only at plough, but in all other kinds of employ, that this indolence is visible; it seems instinctive in the whole district, even in the children.

PARING and BURNING.

PARING and burning land is not in general use in this district of Wiltshire, in preparing old arable land for a crop, but is frequently, indeed almost universally, in breaking up new down lands; and as the use of this practice is defended by many, as not only the cheapest, but as the best way of preparing such lands for the plough, and by others totally condemned, on the maxim often quoted in this district, that, "however good this husbandry may be for fathers, it is ruin to sons;" it is an object of very great consequence, to endeavour to find out where the truth lies between these two positive assertions, by first enquiring whether *this mode of husbandry is in itself good;* and next, *whether it is proper for the purpose it is used in this district.*

And, perhaps, no one object under enquiry, in the agriculture of South Wiltshire, will be thought of so much real consequence by the landholders thereof.

Paring and burning land, or, as it is called in Wiltshire, "burnbeaking," though by some supposed to be a new mode of husbandry, is, perhaps, *coeval with, if not more ancient*

than ploughing. When land was to be reduced to a state of wood land, as great part of this island usually was, *manual labour* was alone applicable.

The wood was cut off, the principal parts grubbed, and then the rough grafts and mossy surface of the land, was chopped up with a mattock, and burnt to ashes, and thus the land was prepared for sowing. This mattock was called "the scorching iron." The operation was therefore, and is still called "breaking and burning." Perhaps no method suited to the original purpose of clearing a wood land, in which it was almost impossible for oxen to work a plough, than this operation; the action of the fire not only consumed the wood and other incumbrances, but corroded the earth, and rendered it fit for the production of crops, without only answering the purpose, of being easier and cheaper than it could have been by ploughing, but serving as manure for several years.

But, unfortunately, this custom, like many others, originally good, has, in some instances, remained long after the original causes have ceased to exist, and in other circumstances for which it was never intended.

Paring and burning may be called a process which is only proper when properly applied, but in improper cases, may do, and sometimes has done, almost irremediable damage.

To apply this remark to Wiltshire does not, though it has been already noticed, to the native soil of the downs may in general, with some exceptions, be reduced to two distinct classes, "red land" and "the black land," the former being a *deep, strong, cohesive, sour* land, with a thin layer of flint, and a solid bed of chalk immediately beneath; the latter a *loose, black surface*, of the nature of sand, or fine flints, or rubbly chalk, and the chalk rock beneath. The former of these soils lies on the tops of the hills, and great part of it is

state of wood-land. At this time it is, in general, incumbered with furze and stunted thorn bushes. The latter usually occupies the vallies and the sides of the hills, and though often shallow in soil, is usually the sweetest feeding part of the downs. In many instances, it is incumbered with a *short, blinking heath*; but this production of heath, is much oftener the effect of its not having been "hard enough stocked with sheep," than of any particular poverty in the land. It being a well known fact, that many downs that were "sweet and good" within the memory of man, are now, in consequence of this kind of neglect, entirely covered with heath. Great quantities of both these kinds of land, have been broken up within the memory of man, and almost all brought into cultivation by the same means, viz. "Burnbeaking," and the immediate effects have been nearly the same, viz. that of producing several successive crops, without any other kind of manure; but the duration of these effects have been very different. The red land, *with proper after-management*, being capable of being kept in tillage, and thereby considerably improved in value; and the black having been reduced, (after the heat of the fire has been exhausted) by two or three crops, to a mere bed of dust, *without tenacity or cohesion*, and entirely unfit for the vegetation of corn or grass, for a long series of years; the fire having apparently the same effect upon it, as spirituous liquors on the human body; viz.—that of calling false, unnatural, and forced exertions, which the frame cannot long support, and eventually ruining the constitution.

It seems therefore fair to say, under these circumstances, that the black land ought by no means to be burnbeaked; and it might perhaps be equally easy to prove, that such land ought not to be broken up at all. These ideas, respecting the nature of the soil of the Wiltsire downs, have been digested from a long acquaintance with, and observation of them; and if they are rightly taken up, the following general rules may be deduced from them.

No down land should be broken up,
bear corn for a continuance, after the fire
 the first burnbeaking is subsided.

No down land will bear corn for a long time,
 it be manured with some permanent alter-
 there is no such manure to be had on Wiltshire
chalk.

The red land will in general bear corn,
land seldom or never will.

The red land therefore, provided its
cohesive, and *soil*, and particularly if it is
 and incumbered with strong bushes or
 general be broken up; and provided suc-
 to be properly chalked afterwards, no good
 done by burnbeaking it previous to the fire,
 the surface be pared thin, and as little
 as possible. Perhaps it is not only the
 best way of bringing it into tillage.

The black land should by no means
 always too light, and generally too thin
 tillage. Chalk has apparently no effect
 has, it is to make it lighter. This kind
 as has been already observed, in general
 and even the appearance of heath upon
 cate that it would not be so, if it was pro-
 close fed.

But however burnbeaking may be *proper*
 for breaking up new land, it is a matter
 consideration, how far the system of burn-
 beaking, introduced, and which seems to gain ground
system, upon old arable land on Wiltshire
 reconciled to the rules of good husbandry.

This system seems to have a tendency
 long established husbandry of Wiltshire,
 and to introduce a system, which however
 in some parts of the kingdom, is not a
 this district, and appears to carry with it
 own destruction.

The general fault of the soil, of a great part of Wiltshire down land, is, that it is already "too light, and too thin." The sheep-fold is particularly adapted to remedy this fault, by adding to the cohesion of the land. If this system is right on such land, a continuance of burnbeaking must be wrong.

In my opinion, this system originates in "that pride or vanity of sheep stock," which has been so often mentioned, and which has already been fatal to a neighbouring county "Hants," and is doing mischief to the hills of Gloucestershire.

My opinion may be wrong, but it is my duty to give it for the consideration of the Board of Agriculture, and of those whose property is at stake, "the land owners of this part of the county."

FARM BUILDINGS.

THE situation and construction of farm-houses and offices, is less variable in South Wilts, than in many other districts; and being in general crowded together in the villages, for the conveniency of water, they are frequently inconveniently situated for the occupation of the lands.

While the system of common field husbandry existed in its original state, and every yard land had its farm-house, it's yard for cattle, it's barns, and it's stable, and the owner resided upon it, such a crowded situation had it's conveniences, as well as it's inconveniences.

In the present state of that system, wherever the small farms are occupied by the owners, the buildings are usually kept in tolerable repair, but whenever three or four, or more of such estates, as is frequently the case, are rented by one farmer, the consequence is, that all the farm-houses except one, are let to labourers, and great part of the out-buildings are suffered to go to decay. And

in this ruinous condition, a great part of this district, which are not yet put into a state of repair, are at this time.

Whenever a general division of the country takes place, and the occupation of land into fewer hands, which (whether right or wrong) one day or other be the case, and the size of farms a certain degree have found their own level, new farm-houses and buildings, more commodious than those now existing, will doubtless be erected.

A view to this alteration, prevents me from going to the unnecessary expence, of erecting a number of unnecessary buildings, and leaving the remaining in their present ruinous state.

The houses and buildings of such farms, long in severalty, and have been but little attended to, are frequently very inconveniently situated, and in rather a superior style of construction.

The buildings reckoned necessary for a farm, are, at least, three barns, and frequently a "stavel barn" for wheat, built on staves, to keep out rats and mice.

Stabling sufficient for the horses and cattle on the farm.

A cow shed for the cattle that are kept in the straw-yard.

A granary, pigstyes, &c. with a stable in the centre of the buildings, and if possible, the house commanding the straw-yard. And, if possible, a drinking trough in the straw-yard.

Although there are few parts of the country where farmers are greater adepts in making cornricks, than those of the Wiltshire, they are much too fond of putting their corn in large ricks; from whence comes the complaint of Wiltshire corn, that it has not "a

that instead of being dry and slippery, it is moist and rough.

Their barns are indeed as well calculated as possible for this purpose, brick or stone walls being cautiously avoided, except for the foundations, and timber and weather board supplying their place, and the covering being usually thatch.

In "catching weather" great barns may be convenient, but in general they are more expensive to the landlord, than advantageous to the tenant.

The almost uniform material for barn-floors in this district is, two-inch oak plank, laid on oak sleepers; and to prevent rats and mice from burrowing under them, they are frequently laid on a bed of flints or broken cinders; or, what is still better, on piers of brick, fifteen or eighteen inches high, to permit dogs or cats to pass under them.

Three barns, or at least three threshing floors, are reckoned indispensable to every farm, to avoid mixing different kinds of corn.

Stones and lime being in general scarce in South Wiltshire, the great part of the fence walls, and sometimes the walls of stables and other outbuildings are built with "mud," viz. the chalky loam of the country, mixed with short straw. The expence of these are trifling, seldom exceeding six shillings for a perch long and six feet high. They are usually thatched with straw.

On account of the oblong shape of many manors, and the consequent distance of part of the lands from home, it is not uncommon for great farms to have "field barns," for the better occupation of their distant land, especially where downs have been broken up; and it is a well-calculated plan, not only to save the carriage of the corn from such distant land to the home barn, but also to insure such land a return of its own dung. For the last reason, it is common and necessary to inclose a yard, and make a pond near such barn, for the convenience of keeping cattle to eat the barley and eat straw in the winter.

O

Wheat

Wheat is generally carried home; seldom barn, unless there is also a house for a labourer to protect it.

In some instances, where common-fields have been divided, one or two of the large farmers have got the best situation in the villages, and taken their all the distant land, and removed the buildings to it for smaller proprietors.

And this must be frequently done, when the division of the common-fields in this district.

The repairs of barns, and particularly the floors, is an object of consequence on a small farm; and it is seldom sufficiently attended to. The decay of floors is owing much oftener to their being placed on the damp earth, than to any wear or injury they receive from a tenant. In my own practice, I have known a floor, that lay on the ground, to be rotten in three years; and have seen an elm one, that lay perfectly sound, after being laid fifty years.

Sheep-wells and sheep-ponds are objects of expense to a tenant, though of expence to a landlord. Sheep-ponds can be made, they are much more eligible for watering sheep. It is trouble to draw water from sheep-wells like trouble; and in hot weather, it is a difficult matter for a farmer to prevent his sheep getting too much water at one time, and too little at another; as they can get no water but what is drawn from wells.

The custom of making sheep-ponds with stone walls, is very expensive; many sheep-ponds on this plan cost from 25 to 40*l.* and after all, they are liable to damage by every frosty winter and every dry summer, and difficult to be repaired. A cheaper and more eligible method of making sheep-ponds, is much wanted in this district.

L E A S E S.

THE usual terms for which leases are granted in this district are, sometimes *seven* years, oftener *fourteen*; now and then *twenty-one*; but of late years, *twelve* has been thought the most eligible term, as being *more divisible* into a regular course of sowing the arable land, either in three fields or in four, as shall be thought most proper for the land; and, considering the disadvantages under which a Wiltshire down-farm is too often entered upon, the term of a lease should never be less than twelve years. He must be a good farmer indeed, or have very good luck, who (on a farm fairly-rented) can do more than save his own in the first four years.

Repairs of the buildings are usually done by the landlord, except thatching and glass windows, which are usually repaired by the tenants.

Repairs of the fences and gates are usually done by the tenants, after being first put in repair by the landlord, the landlord sometimes allowing rough timber for gates; but neither the fences nor gates are as yet a very expensive article on a South Wiltshire farm.

The tenant is bound to sow his lands in the course limited by the lease; to keep up a full flock of sheep, and fold them in due course of husbandry on *some* part of the premisses; but in the last year, on such part as the landlord shall direct; to spend all hay, straw, &c. on the premisses, (long wheat straw sometimes excepted); to spread all the dung on the premisses, except the dung of the last year's crop, and (if a Lady-day bargain) the straw of the off-going crop, which are to be left at the disposal of the landlord.

The old custom of South Wilts, was almost invariably a Lady-day's entry. Indeed a Michaelmas one, was not at all adapted to the customs of feeding the commonable lands of this district. Some old "feveralty farms" had a Michaelmas entry; but those instances are few.

In the entry of South Wiltshire farms, the accommodation of the stock was originally the great object. Corn seems only to have been a secondary one.

The reason seems to be this. The basis of all agreements for renting land, is, that every renter shall have a complete year's produce for a year's rent.

When the greater part of the lands was stocked in common, the value of that commonage was of great consequence. The year's commonage was only complete, when there was nothing on the land for the cattle to eat: and (on that account perhaps) our forefathers fixed on Lady-day for the beginning of their year, not only in their agricultural, but their civil establishment.

The introduction of the new style, altered the time of the commencement of the civil year, (except in the yearly assessment of the land-tax, in which it is still retained).

The abolition of commonage, wherever it has extended, has, in a great measure, changed the commencement of the agricultural year.

South Wiltshire, as *one of the last districts to retain its common rights*, retains the old custom of entry at Lady-day, wherever those rights still exist.

The general custom of a Wiltshire Lady-day's entry, is, that the *rent begins from Lady-day*, at which time the tenant enters on all the *green ground*, and brings on his sheep and cows, and lays up the meadows for mowing; but the off-going tenant sows and takes *all the crops of corn*, not only the wheat that was sown at the preceding Michaelmas, but also the Lent corn that is sown the spring that he quits.

The new tenant, who is, perhaps, at that time quitting *another farm in the same way*, brings on his horses and oxen, as soon as he has done sowing *his own off-going crop*, and begins preparing on his *new farm* for wheat.

The off-going tenant takes his horses and oxen away at *the same time*, to make the same preparation on the farm he is then entering upon.

The usual time fixed for the entry of the new tenant, to carry out dung, and prepare for wheat, is, in some parts

of the district, as early as the 14th of May; in others, as late as the 24th of June.

The old tenant keeps part of the house and stable, to make out his corn.

The new tenant has the other part to prepare for his next crops, and take charge of his own cattle, and make his hay; and in this intermixed way, the two families are situated for upwards of a year, viz. usually till the Midsummer twelve-month after the new tenant's rent commences.

The old tenant keeps the barns till that time, to thresh out his corn; the new tenant not wanting them (except for sheep-shearing, which is allowed) till the ensuing harvest.

So that the new tenant has only *one year's produce* of the arable land, for the first year and half's rent, and lays out of that money till he quits the farm, *when he also, in his turn, takes an offgoing crop.*

Since the introduction of artificial grasses, the new tenants are allowed to sow grasses in the offgoing tenant's *last crop* of Lent corn.

Hop-clover and ray grass, about two bushels to an acre, is the usual seed sown. Broad clover is generally objected to by an offgoing tenant, lest it should injure the barley crop.

With respect to the payment of taxes, it was usual, till within these few years, for landlords to pay, not only the land-tax, but *all parochial taxes*; but of late years the poor's rates have increased so very much, that landlords have thought it necessary to subject the tenants to the payment of *all parochial taxes*; not altogether with a view to prevent an unnecessary waste of money, in the temporary relief of the poor, but to prevent new burthens being brought on the parishes, by the hiring of *yearly* instead of *weekly* labourers, and thereby settling them and their future families on the parish.

BENEFICIAL PRACTICES.

THE only practices in the husbandry of this district, that are likely to be of service elsewhere, are those which will apply to *similar soils and situations in other districts under worse management*; or, in other words, if there are any practices, which are the means of enabling tenants to raise a greater amount of valuable produce in *this* district, than tenants can do on similar soils and situations in *another* district, under a *different management*, those practices should be introduced into the latter.

It is a fact, that the hills of Wiltshire are rented *remarkably high*, when compared with the high lands of Hampshire, Dorsetshire, and Gloucestershire, even in those parts of the county that are not immediately affected by markets.

Those counties were *once* under the same general kind of management as Wilts, with respect to the sheep-fold; and even in many parts of Hampshire and Dorsetshire, there are water meadows equally good with those of Wiltshire.

It remains then to be enquired, what are the customs *once* possessed by all these counties, but which Wiltshire *alone* has retained?

Use of the sheep-fold.—This custom appears to be “the use of the sheep-fold;” and that *not merely to keep the sheep from running away in the night, but with a view to manure the land.*

The “pride of sheep stock,” which must inevitably tend to the subversion of the sheep-fold, infected those counties first. It is already gone *too far* in Wiltshire; and those who have attempted to stem the torrent of fashion, by introducing the South-Down sheep, deserve the thanks of the land-owners of the county.

Overplowing and understocking, in high exposed situations, and particularly where the land is light and loose, must always produce bad effects; and these are the natural consequences

consequences of keeping flocks of sheep for beauty, in countries where they ought to be kept entirely for use.

Use of water meadows. — The water meadows of Wiltshire, and the neighbouring counties, are a branch of husbandry that can never be too much recommended.

In speaking of water meadows, it has been often objected, that they are local; and that there are many parts of the kingdom in which they neither can be made, nor are they necessary if they could be made.

There are, undoubtedly, many parts of the kingdom in which water meadows cannot be made; but nobody will deny, but that there are thousands of situations where they could be made, in which they have never been tried. And, as for their use, it may be strongly suspected, that those who deny it have never been in Wiltshire in the month of April. Let those who call it in question, point out a substitute, on which a farmer can, with equal certainty, depend for the sustenance of his flock in that trying month.

Whatever may be the earliness of the season, with respect to the springing of either ray grass or meadow grass, water meadows will be a month before either.

And notwithstanding the great advantages that have been derived from the introduction of green winter crops, such as turnips, rape, cabbages, &c. (*advantages to this kingdom almost beyond estimate*) yet this may be laid down as a certain maxim, that, whether the winter be hard or mild—whether the spring be late or early—nature will always have, in this climate, an “*interregnum*” between the end of one year’s food and the beginning of another. The same temperature of the air in the spring, which brings on the grass, will occasion all the green winter crops to run to seed, and not only to lose their own nourishing quality, but to exhaust the land on which they grow.

A moment’s reflection will convince every man, that nature must unavoidably and constantly leave this *chasm* in the year’s food. *Winter*, though driven into a small compass, is still winter, and art alone can expunge it from the *kalendar*.

Hot-bones and hot-beds have, in a great measure, done this for the gardener. *Water meadows*, which are “hot-beds for ‘graft,’” will as effectually do it for the farmer.

How necessary, therefore, is it, to impress the value of this branch of husbandry on the minds of all the land-owners in the kingdom.

It is not only the most *valuable*, but the most *permanent* of all improvements in husbandry. It not only improves the land *on which it is made*, but makes *all the adjoining land* better by its produce; and it differs *in one very material respect*, from *all other* improvements that a landlord can make for a tenant, (that is to say) *that time will even make it better, and that the carelessness of a tenant cannot make it much worse.*

IMPROVEMENTS suggested.

THE apparent errors in the stock and husbandry of South Wiltshire, have been so often mentioned in the course of the foregoing observations, that it is unnecessary to repeat, at length, the arguments that have been used, to prove, that they *really are “errors.”* A brief recital of them will be sufficient.

Errors in Stock.—The errors in stock may be reduced to one general cause, viz. “the pride or vanity of possessing “large, handsome animals.”

1st. *Error in sheep flock.*—As to sheep in particular, this pride of stock, however commendable, and however profitable it may be in countries that are adapted to it, does not seem at all suited to the bleak hills of Wiltshire.

“ Warmth and shelter, are as necessary to produce perfect “ symmetry in the parts of an animal, as to unfold the “ wings of a butterfly, or expand the petals of a carnation.”

Where

Where these requisites to animal perfection cannot be had, it is useless to attempt breeding for beauty.

But it may be asked, whether those requisites cannot be had, and warm sheltered situations be found in Wiltshire?

Undoubtedly they may; but *not in a sheep-fold on Wiltshire hills*; and particularly at that time of the year when the fold is almost invaluable—"the fold of ewes and lambs for a barley crop."

It can never be too often repeated, that so long as South Wiltshire remains a corn country, the *sheep-fold* must be the *sheet-anchor* of its husbandry; and until a new method can be found to manure its hill land, equally efficacious with the sheep-fold, breeding sheep, as a science, *solely for the beauty of the shape*, can never be introduced with success into this district.

Error in horses.—The pride or vanity of stock, has been almost as hurtful to the farmers of this district, in the article of horses, as in sheep.

In both instances, the attention has been much more directed to get *large*, rather than *useful*, animals. Large heavy-heeled black horses have long been the fashion, and have almost driven the smart, active, and *really useful* horses, out of the district. Even the breeders of the north say, they can never breed cart colts big enough to please Wiltshire farmers.

There are, undoubtedly, some situations where the steepness of the hills, and others where the heaviness of the soil, require more than ordinary strength; but surely it would be better to add to the *number* of horses upon *particular occasions*, than to increase the size of *the whole*, especially as the roads to the market towns are in general so very good.

It has been often asserted, that the benefits the Wiltshire farmers derive from their excellent markets, are more than paid for, by the expence of keeping fine horses to carry their corn to them.

Great horses not only *cost* proportionably more at first than small ones, but require much more and better food to

keep up their flesh; and the pride of a such horses, is generally followed by the p in keeping them as fat as possible. And as in general is barley) is taken from the bar expence of keeping them is seldom exactly

There are many instances, where the c up a fine team of horses, amounts to near farm on which they are kept; and this seldom counterbalanced, by any profi: them in when colts, and selling them at five to go in stage waggons or London drays, been the great pretence for keeping them. Hundreds of colts have been bought at piece, *for the chance of selling one now and then* or fifty, two or three years afterwards, u they earn their bread during the time the f and the advance in their price is all gain.

But this is certainly a mistake. A horse does not come to perfection till six years old; a horse to perfection, it must be *nursed*, and *favoured in its work*, or it will never attain to strength, and beauty.

This nursing and tender treatment must be paid by the farmer; and the favor of work, at the expense of older horses: so that the young ones, instead of bread they eat, are eating that which the o

If the farmers in this district were able to buy a large heavy-heeled horse, this argument would have less weight. The high price at which cart colts have been bought, precludes the possibility of getting much by them. Besides, this kind of horse is naturally too slow in its step, for the purposes of Willington, and perhaps, indeed, for the farm use of any soils, so much strength is not wanted. I am told, however, that the weight of the animal does injury to the land.

Large heavy-heeled horses are, undoubtedly, useful for heavy drafts on public roads; but, for the smaller and more active kind of horses v

quicker, but will bear their work more hours in a day; and will keep up their flesh, not only with proportionably less food, but with that of an inferior kind.

Error in cow stock.—The cow stock of this district, is not numerous enough to be a subject of much animadversion, with respect to its kind.

The great error in this stock, is the smallness of the quantity kept, the rage for fine sheep having almost driven the cow stock out of the district.

South Wiltshire farms are not calculated to keep many cows, but the greater part of them would keep more than they do, especially such as have much down land; and that, if repeated experience may be relied on, without diminishing the sheep stock.

Where there are water meadows, cows are indispensably necessary to eat the after-grass; and in winter they are always so, to eat the barley straw, and make dung. There is always as much distant land on a South Wiltshire farm as the sheep-fold can manure. The home arable should be manured with pot-dung, and more especially when in preparation for a turnip crop.

If cows were formerly thought so useful, as to be reckoned indispensable on the farms of this district, they must certainly be much more so now, when their produce is worth, at least, one-third more than it was thirty years ago.

Few reasons need be adduced to prove, that the best kind of cow for this district, is that which will bear hard-keeping best; and particularly that kind, which will best bear wintering in a straw-yard.

The expence of hay, in attempting to keep up the flesh of large, handsome cows, during the winter, has tended very much to lessen the cow stock of this district.

Summary of errors in stock.—In summing up the errors in the stock of this district, it is worthy of remark, that the attempts to improve the breed of sheep, horses and cows, have uniformly been, by enlarging the size of the animal;

mal; whereas, the only animal, in which a real change for the best has been made in this district, "the pig," has been improved by reducing its size, and introducing a kind that will live harder, and that will be fit for use at an earlier age.

And, perhaps, this remark will apply as well to many other counties, as to Wiltshire.

Errors in the husbandry of the district.—The great errors in the husbandry of this district, have been already noticed to be the sowing more land with corn, and particularly with wheat, than can be properly manured with the stock on the farm; and the not making proper provision either by hay, or green crops, to winter all the sheep stock at home.

These two errors proceed from one cause, viz. an anxiety in farmers to have a certain number of *acres* of wheat every year; and, frequently, without considering whether they have sufficient manure or not, or even whether the land is at all adapted to wheat.

This custom, originating in necessity in common-field husbandry, is too often retained on severalty farms. The observation and good sense of farmers may, in time, alter this mode; but the temptation of immediate profit, is frequently too strong to allow farmers to look forward to future consequences, and more particularly those, who either know or fear that they shall soon quit their farms; and it is very natural for a farmer, who enters on a farm exhausted by over-cropping, to leave it in a similar state, unless he is compelled, by his agreement, to do otherwise. Nothing but leases for *certain terms* of years, and an obligation to pursue a *certain mode* of husbandry during the term, can prevent this practice. If a farm is entered on in an exhausted state, the tenant should have an allowance for such bad entry, and be *obliged* to leave the farm in a good state at the end of his lease.

It is impossible to lay down particular rules here, for the mode of husbandry necessary to be pursued on a South Wilt.

Wiltshire farm during the term of a lease, or in what manner a farm ought to be left for a coming-on tenant.

They depend on soils and situations, but they ought, by all means, to be positively limited and settled, previous to a tenant's entry. Nothing but this can prevent the quarrels which are continually happening, between a going-off and a coming-on tenant, in this district.

The indispensable necessity of an obligation on a tenant, to pursue a regular course of husbandry on a Wiltshire-down farm, is a reason why farms should never be lett without leases in this district. In many counties, leases are understood to be only necessary for the security of the tenant, but here they are absolutely necessary for the security of the landlord.

The term of years to be granted by a lease, should be so calculated as to bring *all* the land, or *as much of it as possible*, round in succession a *certain number of times*; so that the tenant may have just as many *complete years produce*, as he pays *years rent*, and leave the farm exactly *in the state he entered upon it*.

The term should be therefore such, as to be the most divisible into the several periods of sowing the different kinds of land. Most farmers will expect to have liberty, to sow some of their lowest and strongest lands to wheat every three years, and the lighter and more exposed parts every four; and they should not be permitted to sow their old burnbeak land oftener than every six years.

A term of twelve years seems, therefore, to be the most appropriate to the general husbandry of South Wilts.

Proper size of a South Wiltshire farm.—As the only difference between good husbandry and bad, is, that the former, by enabling a tenant to raise a *greater comparative produce*, at a *less comparative expence*, enables him to acquire more profit to himself, and to give a greater rent to his landlord, than he could do by pursuing the latter, it may not be improper here to enquire, *on what sized farm, as well as by what mode of husbandry*, a farmer in this district will be best able to do this; and this enquiry is particularly necessary.

necessary at this time, when so great a part of
is emerging into a new system, by the extinc-
tenures, and the abolition of common-field h-

At a time when this district was, in ge-
of lfehold tenure, the size of farms was
object of the choice of the landlord, but o-
while the lands remained in a state of com-
cupiers were in an equal state of advantag-
disadvantage). But in those manors, when
that the lfehold tenements shall fall into
farms shall be made out of them, it becom-
consideration, "what the most proper
Wiltshire farm is;" so as to ascertain the
ing down unnecessary buildings, and to det-
ber 2nd situation of those necessary to 1
room.

Much has been said and written about the
farms. The *impolicy* of large farms has
quently, and very ably, disputed, and perh.
of their being too small, in particular coun-
been as clearly demonstrated, were it not
popular argument; and that there are t
not rather have their judgment, than their
in question.

But after all that has been, or can be, sa-
the size of farms must always depend on
tions, and modes of husbandry; and every
level, to which farms of a certain size are
ed; and if they are much above or below
be managed to the disadvantage of the occu-

Those farms are of the most proper si-
the most proportional produce at the le-
expence. This ought to be the great obj-
owner. The object of every tenant, i
industry; if that industry will not allow
had better be a labourer.

In those modes of husbandry where the
the eyes, of the farmer, and of every bran-

can be fully employed, small farms can be managed to advantage.

In dairy farms this is peculiarly the case; and it is frequently so in countries where the land is partly applied to breeding cattle, and partly to raising corn, especially where lime, sea sand, and similar manures, are to be fetched from a distance on horses backs, as in Devon and Cornwall; and where the ploughing is entirely, or chiefly, done by the oxen bred on the farm; and even in some parts of South Wiltshire, where small farms are situate on sandy soils, they may be applied, on a garden system, to raising esculent vegetables very advantageously.

In these cases, where circumstances enable *small farmers* to do almost the whole of the necessary work of their farms with *their own families*, they can bring their produce to market on equal terms with the large ones.

But on Wiltshire down farms, where horses are necessary to plough the land, and sheep to manure it, the little farmer stands on a very disadvantageous comparison with the great ones, being obliged to be at much greater proportional expence in horses and servants.

Every Wiltshire down farm, if even so small as 40*l.* per annum, provided it is to be manured by the sheep-fold, requires a shepherd, a carter, and a plough-boy, and seldom less than three horses, but frequently four; and yet, a farm of double the size may be managed frequently with one, or, at the utmost, with two additional horses, and with one, or, at any rate, with two additional boys. For, whether these servants and horses have or have not full employ, their expence will be nearly the same; and if the farmer takes one branch of the active labour upon himself, the other branches are suffering for want of his superintending eye; and a farm of this kind furnishes very little employ for his wife and daughters.

The great object of consolidating farms, is an increase of rent; but it may be laid down as a certain maxim, that such increase cannot be obtained, except where a de-

crease of useless hands, and, particularly, can be made by such consolidation.

In this district, the consolidation of tended very much to reduce the number it is chiefly by this reduction, that a s quently worth more to be added to a farm separately. But there must be a period farms, at which this advantage must end; a farm may be too big to be managed pr bly.

The size of a Wiltshire farm should be as the master's eye, and one principal compartment, can manage properly; and a carter, with such a number of boys as may be wanted, and one head shepherd, with all of urgency, will generally be sufficient.

Perhaps, the lowest size of a Wiltshire farm, which can be managed to advantage, is a good one, and the highest a nine horse business, or twelve. Beyond this extent, two men are required for subordinate capacities; a jealousy is excited in the master's eye is insufficient to man a bailiff is necessary.

This business becomes then, to all intents, two farms; and would certainly be better suited to the occupation of two farmers.

It is not meant here to say, that all the land in the district, of a smaller description than a farm, should be consolidated—That would be called impolicy.

* As proofs of the reduction of horses by consolidation, we may mention, that the parish of Monkton Deverill, which contains 3 yard-lands, and 40*l.* a year each, was occupied, 50 years ago, by 7 horses. It is now in 4 hands, and managed with 19 horses. The neighbouring parish of Brixton Deverill, which, 50 years ago, employed 43 horses, is now in 3 hands, and employs 25. The size of the horses is very little increased since the time of the former.

Where there are buildings proper for the occupation of farms in that state, and where tenants are settled on them, and, from peculiar circumstances, can live on them, and pay a rent equal to their value, they ought to be allowed to remain. It is only meant to apply to cases, where new farms are to be made at the owner's option, *and is rather intended to point out the proper extreme of largeness, than the extreme of smallness;* but, at the same time, with every deference to situations and circumstances, which will always furnish exceptions to all general rules in agriculture.

In agriculture, as well as in manufactures, it should always be remembered, how indispensable a sufficient capital to manage a business properly, is to the success of that business; and no man should engage in a concern, to which his capital is not so far equal, that he may not be obliged to sell his commodities in a sinking market, or be prevented, by want of money, from buying, when he sees a proper opportunity.

2. NORTH-WEST DISTRICT.

S O I L

TH E soil of this district, though not so uniform as South Wilts, may, nevertheless, be reduced to a few leading features; and those, in general, may be better defined by a description of the sub-strata, or under-soils, than by any peculiar characteristics of the upper-stratum, or top-mould.

The under-soil of a large proportion of it, (viz.) in a direction from Cirencester to Bradford, is a loose, irregular mass of that kind of flat broken stones called, in Wiltshire, "Corn Grate;" of which the greatest part of the Cotswold Hills in Gloucestershire is composed, and which runs, without interruption, through the North-West part of Wiltshire, to its termination at Frome, in Somersetshire; the stones being, in some places, thin enough for slates to cover houses; in others, laying in large flat beds, fit for pavement, and in some assuming the shape and qualities of freestone; but, in general, lying in those loose, flat broken pieces, so well adapted to the building the dry fence walls in common use on Gloucestershire hills, and in many parts of this district, and laying usually in horizontal beds, mixed with earth.

The top-soil of this rock, or rather, mass of stones, is chiefly that kind of reddish, calcarious loam, mixed with irregular, flat broken stones, usually called "Stone brash."

The goodness of this soil varies very much, according to its comparative depth to the rock, and according to the absence or presence of an intervening vein of cold, blue clay. This clay is of a marley appearance, but, in general, not sufficiently calcarious to be valuable as manure, and its

presence

presence is obvious to every traveller, by its natural and spontaneous production of oak trees; while its total absence, or, at least, its laying very deep, is as strongly denoted by the spontaneous and plentiful production of beautiful elms.

The north-west verge of the county, viz. from near Cirencester, by Malmesbury, and on the west side of the road from London to Bath, may be truly called the Cotswold part of Wiltshire.

Its external appearance, and internal component parts, are nearly the same with the Cotswold hills of Gloucestershire; except where the vein of clay lies so near the surface, as to make it colder.

This part is, on account of the thinness and looseness of its soil, usually, and, in many instances, necessarily, kept in an arable state; while the adjoining land, viz. about Chippenham, and from thence southward, through Melksham and Trowbridge, which happens to have a greater depth of soil, and has a pure warm rock, without the intervening vein of cold clay, is capable of grazing the largest oxen, and is, perhaps, one of the most fertile parts of the county, unless, possibly, the vein of gravel next described, may be excepted.

There is a vein of gravel, of a most excellent small pebbly, shelly kind, and, in general, covered with a good depth of rich loam, which runs in a broken line from Melksham, through Chippenham to Cricklade; but its greatest body extends from Tytherton, through Christian Malford and Dantzey to Somersford, and perhaps the richest part of it is at or near Dantzey.

It is a most excellent undersoil, warming and drying the top mould, and it is only to be lamented, that its quantity in this district is so small. It is used for roads and walks, and when washed or screened, for drains in the cold, clay lands which border upon it.

There are two principal veins of sand in this district. They are in general red, and of a sharp, loose, gravelly texture, and, of course, not so fertile as the tough, close

fands of South Wiltshire. One of these burn, by Seagry, Draycott, and Sutton Burrell near Chippenham. And another opposite corresponding hill at Charlcot, a Bremhill to Bromham.

From this last vein, there are two detached masses appearing at different places to viz. between Charlcot and Swindon, are parts of the vein.

All these detached masses have a mixture of sand and stone soils, and are generally more fertile than the veins. Under the sand land at Swindon is a rock of stone of a most excellent quality, in its different beds, for the purpose of paving, and covering them.

The greatest part of the residue of the district, and particularly from Highworth, by way of Clack, lies on a hard, close rock, of a rustic kind of bastard limestone, of very little value for the roads. The soil over this kind of stone is generally cold, owing to its own retentive power, and the frequent intervention of a vein of clay.

Brandon Forest, (between Cricklade and Marlborough) is an exception to the whole. It is a cold, thin, and sterile surface; so bad, as to be called, by way of derision, " Brandon Land," and was never so well known in its original state of wood-land.

Climate.—The climate of this district, though, in general, milder than that of the south-east district, is nevertheless cold, unfavourable to the purposes of early sowing probably to the cold retentive nature of the soil of great part of this district.

STATE OF PROPERTY AND FARMS.

It has been already observed, that this district was formerly, and at no very remote period, possessed chiefly by great proprietors, who leased out the greatest part of it in small estates for *lives renewable*, at which time the country in general was in an open common field state, and most of the lessees lived on their own holdings. But that since that period, many divisions of property had taken place, and freeholders had been created by the dismemberment of manors, and gradual extinction of lifehold tenures, particularly in those parts which have been inclosed and laid down to pasture. That many manors, nevertheless, remain in their original common field state, and are still granted out on the same lifehold tenures, particularly those in mortmain, belonging to churches, colleges, schools, and other pious and public foundations; but that upon the whole, property is much more divided than in the south-east district of the county. And although the present occupation of some parts of the county, is in some instances in a few hands, particularly some great dairy and grazing farms in the north part, and a few large corn farms in the north-west part, yet a great part of the district may still be said to be *much subdivided* in its occupation, particularly in the neighbourhood of the manufacturing towns.

MODE OF OCCUPATION.

This district is for the most part inclosed, though not entirely so, there being still a few common fields remaining, and some commons, but no very extensive tracts of either.

The stone-brash land, on the north-west verge, is chiefly arable.

A great part of the residue is in grain proportion of that part is applied to the to the making of cheese. But although of this district, is now in a state of inc it does not appear to have been so from of antiquity.

The straitness of the hedges, the unit closures, and the evident traces of the plough proofs, that a great portion of it was originally in common field arable state, not excepting best meadow land on the fertile banks of

The difficulty of tilling and cropping land heavy, and its aptitude to run quickly occasioned, from time to time, great quantities laid down to pasture, and the increase of land when so applied, occasioned in a great excellence and increasing fame of the cheese of this district, has contributed to keep it in the market to increase its quantity.

The cheese of this district, was formerly sent to London markets by the name of Gloucester, now perfectly well known by the name "shire cheese."

It was at first doubtless an imitation of a humble one, of that made in the vale of Gloucester, which is now, in the opinion of many, at least equal, if not superior, to that of the favorite district of the hundred of Berkley.

Mr. Marshall, who has so fully examined and described, the present state of the dairy interests of this country, leans strongly to that opinion.

Although this district varies as much, in soil, situation as almost any two counties in England, it is remarkable how strong the predilection is particularly to the making of cheese in this district, and still more so, that the cheese produced in different parts of the country, and in different situations totally dissimilar, should frequently under skilful management, to be equally good.

proof, that although soil and situation may, in some measure, contribute to the production of that necessary article, yet art contributes more, or, perhaps, in other words, the dairy-women of this district, who happen to be situated in soils and situations, naturally unfavourable to the making of cheese, have, by attention and observation, found out the causes and the remedies for the faults peculiar to cheese made from their own dairies; and nothing has contributed more to excite that attention and observation, than the rivalship necessarily produced in a district, anxious, at first, to rival their neighbours in the vale of Gloucester, and then to keep up the superiority in goodness, and of course in price, which North Wiltshire cheese had, by degrees, acquired.

But although the dairy has, from time to time, made great in-roads on the arable lands of this district, *that* has likewise, in its turn, lost ground, and particularly on the most fertile lands, by the rage for grazing.

The rich and the lazy find this a pleasant resource; and the dairy, though much more profitable, is obliged to give way to it.

Even those who are professedly dairy farmers, can seldom resist a propensity of applying a little of their best land to the purpose of grazing their own dry cows, and of fattening a few sheep in winter, or taking in stock sheep-to winter for the down farmers.

It may, therefore, be fairly asserted, that notwithstanding the strong natural predilection of this country to the dairy, and the peculiar excellence of the dairy-women in the making of cheese, at least one-fourth of the grass land in this district is applied to grazing.

The impropriety of this innovation, in many parts of this district, will be afterwards noticed.

The dairy farms in North Wiltshire have, in some cases, a small quantity of arable land annexed to them, in others not.

The propriety of this appendage will also be afterwards enquired into.

LIVE STOCK.

As the dairy cows of this district form so great a portion of its depending stock, it is an essential object to ascertain which is the most proper kind of cows, for the purpose for which they are principally kept in this country, viz. the making of cheese.

Cow Stock.—It does not appear, at this time, that there is any original kind of cow kept in this district; probably the Gloucestershire cow—a sort now almost extinct, perhaps, as is now the case in Somersetshire, a few years ago—was the original kind. But the universal rage, for upwards of half a century past, has been for the long-horned, or, as they are called here, the “North-country” cows; and at this time nine-tenths of the dairies in this district, are of this kind. The reasons given for the general introduction of this sort, are the nearness of their situation to the principal market towns, where they can get any quantity they want, cheaper than they can rear them in a land which is in general too good, and rented too dear, for the purpose; and, especially, as in consequence of the great demand for the Bath and London markets, cows of this kind are better to be sold for veal, than to be kept for milk. Perhaps, the real reason is, that “pride of breeding,” like the pride of sheep and horses in the neighbouring shire, has gradually led the farmers to an emulative spirit, in respect of size, more than in usefulness and profit; and the breeders have not been wanting in using every means to create and promote this sort.

Two ostensible reasons are given by the breeders for continuing this kind of stock, viz. that they yield more cheese from each cow; and that they yield more, when thrown off to be fattened, for the market.

The quantity of cheese produced from each cow in this district, is certainly, as Mr. Marshall justly observes, amazingly greater than is common in any other cheese-making district; sometimes as high as $4\frac{1}{2}$ cwt. or near 5 cwt. per cow; seldom lower than 3 cwt.; perhaps $3\frac{1}{2}$ cwt. is a good average in a good cheese-making year, on every cow that calves in proper time. But the second reason, viz. that this kind of cows produce more than any other kind, when sold for fattening, is an answer to the first, for this simple cause, because they are bigger.

If, therefore, it can be proved, as the opposers of this breed say it easily can, that four cows of a small size, will, with the same food, produce as much, or more cheese, than three of the large long-horned kind, it will be easy to prove, that the smaller kind will be the most eligible stock; first, because in case of death of an animal, the loss is not so serious, and, principally, because the weight of a large animal is an essential injury to land whose great fault is, its being already too cold and wet. Besides, it is allowed, even by the advocates for this kind of cow, that they do not come to perfection, until they are, at least, two years older than cows of a smaller kind; and that, whatever may be the comparative merits of the female, the oxen are certainly not only the ugliest, but the worst and least saleable of all kinds bred in this kingdom.

These are, undoubtedly, two objections against a dairy-man breeding his own flock out of the long-horned kind of cows; and yet no intelligent man will deny the use, and indeed the necessity, of breeding his own stock, where it can be possibly effected; as no cows ever settle so well in dairy, as those actually bred on it.

Many attempts have been made lately, to supplant the long-horned cows, by introducing the Devonshire kind into this district. The comparative merits of the two species, is very warmly contested: the Devonshire cow, undoubtedly, gets ripe at an earlier age than the long-horned cow, and, being a smaller animal, is less liable to tread and poach out the wet lands; and being disposed to get fat at an early age,

R and

and when fat of a greater comparative value to the butcher than almost any other kind, is much better calculated than the long-horned cow, for those who *breed* for the purpose of fatting.

How far these properties, particularly that remarkable disposition of getting fat at an early age, may answer the general purpose of a dairy, where milk alone is required, remains to be proved.

It is possible, that each of the two kinds of cows may be most proper, for the particular purposes for which they are kept. But the supporters of the Devonshire cows say, that they are equally good milkers with the long-horned species; and yet, that they are so much smaller, and eat so much less food, that three of these may be kept on the same land, as will keep too long-horned cows.

If this can be proved, the question is decided at once.

There seems to be an increasing opinion of the merits of the Devonshire kind, and, perhaps, if half so much care and attention had been paid to the breed of the Devonshire cows, as has been bestowed on the long-horned kind, it is probable that the former might have been still more improved, and that the comparison might have been much more in their favour.

Whatever may be the real comparative merits, of the two kinds of cows for the dairy, there is not a doubt but the Devonshire kind are the most proper for fatting; and as to the oxen bred from the two kinds, it would be injustice to the Devonshire oxen, even to make a comparison between them.

Swine.—Pigs are looked upon to be a necessary appendage to every dairy farm; a great number are bred with the whey and offal of the dairy, and many fattened; barley-meal, mixed with the whey, is the general fattening food.; pease are not so much used as formerly.

The kind of pig, is generally a mixture of the long-eared white, with the black African, or negro pig; which cross has been found to be a very great improvement.

Stock

Stock fatted for sale.—There are great numbers, both of cattle and sheep, fatted in this district. The cattle consists chiefly of long-horned cows, turned off from the dairies, and of oxen bought from different countries, particularly from Devonshire. They are usually bought-in very early in the spring, so as, if possible, to be finished with grass; but the largest and latest are taken into the stalls, and finished with dry meat, chiefly hay.

Corn is but little in use for fatting cattle in this district; of late, potatoes have been introduced for winter fatting, dressed with steam, and mixed with cut hay or straw, as is mentioned in the description of the south-east district, and found to answer. Bath takes off many of the fat cattle of this district; many are sold at Salisbury market for the consumption of Flants, and the adjoining counties, but the greatest part go to Smithfield.

The sheep fatted in this district, are usually bought-in at the Michaelmas fairs; the principal object is, to fatten them, during the winter, on land that will not bear the treading of heavy cattle; sometimes ewes with lamb are bought, with the object of fatting both ewe and lamb in the succeeding summer.

Both cattle and sheep are not only fattened by professed graziers, but frequently by the dairymen, and sometimes to the injury of the dairy, particularly when sheep, by being kept on too late in the spring, injure the hay crop, or prevent the cows from being turned early to grass.

Sheep.—Many sheep are bred in this district, part on a folding system, and part purposely for fattening. The number of sheep folded in this district, has certainly decreased, and, perhaps, a still greater decrease will and ought to take place, on land which can be better appropriated than under that system.

The decrease of the number of sheep bred in many parts of the kingdom, and the vast increase in the consumption of mutton, seems a paradox to be accounted for in no other way,

than by supposing the animal to be killed at an earlier age than it is now. Sheep were first thought eatable till four, five, or even six years old; but at present, three-fourths of the mutton is killed at two years old. The old sorts of sheep did not come early enough to market to do this, and new sorts were necessary to supply the foundation of that spirit of sheep-breeding, which has been carried to a pitch, particularly in Leicestershire, beyond credibility: and this spirit (though sometimes applied, and particularly in the south-east part of the country) has enabled the kingdom to find a supply to meet an increasing demand of mutton.

It has been said already, in the description of the south-east district, that two kinds of sheep are necessary for the two distinct purposes of folding and fattening, viz. a kind to walk, and a kind to stand still, the latter, which are particularly adapted to come early to perfection, are particularly suited for this country, where, in some parts, the land is subject to a convertible system of corn and grass; and where there is a proper mixture of arable and pasture land. This practice of breeding sheep, purposely for fatness at an early age, seems to gain ground, particularly since the Leicestershire sheep, which are peculiarly adapted to this purpose, have been introduced.

WATER-MEADOWS.

NOTWITHSTANDING the system of watering meadows has been carried to so great an extent and perfection in South Wales, it has not been generally adopted in North Wiltshire.

There is not, certainly, the same occasion for watering meadows in one district as the other; but it does not follow that they may not be useful, though not equally indispensible, in both.

In the north-west, or arable part of this district, where water meadows are the most desireable, the springs are in general too small, and the land too absorbent, to be made much use of in that way. Where they can be used, they certainly ought not to be neglected. But there are, certainly, several situations in this district, where some good water meadows may be made, though not in very great quantities.

On the banks of the Avon, and on some of the principal branches that lead to the Thames, water meadows, though very practicable, are not much in request; the land being supposed to be "good enough already."

But although it may, perhaps, be not easy to prove, that watering those rich meadows would improve their quality, it certainly would be of some advantage to a dairy farmer, to make the winter a month shorter, and to be able to turn his cows into a *flush of graft early in April*, instead of waiting till May, especially in a country where, on account of the great demand for, and high price of winter veal, a great part of the calves are sold off fat by the beginning of April; and if at that period the cows have no other food but hay, (unless the hay is very good) they frequently shrink their milk, and never fully recover it during the whole summer. A few of the dairy farmers have seen this advantage in this light, and have made water meadows, particularly near Somerford, where, though the expence must have been, at least, twelve pounds an acre, the improvement pays exceeding good interest for it. The very advantage of such land, not only requiring no manure itself, but affording manure for other land, is an object of more consequence than is generally imagined.

Objections against water meadows refuted.—In a country like North Wiltshire, where grass land is plenty, and hay (of course) not so great an object as it is in South Wiltshire, it has been frequently remarked, that one of the great objects of a water meadow, "that of producing a large and almost certain crop of hay" is lost; because, in such a country,

country, hay of a much better quality than what usually grow in water meadows, is always to be got at a reasonable price. I answer to this, that the coarseness usually attributed to water mead hay, is in general not so much the fault of the herbage, as the covetousness of the owner, in letting it stand to increase the quantity till it is too ripe.

Water mead hay, if cut young, is not only as good as that of dry meadow, but cows are *more* fond of it, on account of it's peculiar softness, than of the hard benty hay, that is produced on upland meadows, and it will produce more milk; though I will allow that, on that very account, it is not so saleable, nor, perhaps, so proper for *horses*.

But, perhaps, it would not be difficult to prove, that water meadows, in many counties, and particularly those on dairy farms, will answer a better end to be summer-fed than to be mown at all.

The advantage of the first flush of grass, a month before the upland meadows will produce it, is already pointed out, and is obvious to every one. When this is eat up, the land intended for summer-feeding will be ready to take the stock.

The water may then be thrown over the water meadows for a fortnight, and a new supply of grass produced, that will again take the cows, by the time they have eat off the first shoot of the summer-pastures, and then they may be fed during the summer; and the quantity of grass they will produce, and the particular milky nature of that grass, is inconceivable to those who have not tried it, especially during a dry summer.

In case of a wet summer, the meadow will not want watering after the second time, and indeed the drier they can be kept the better; but if the summer is dry, the water should be thrown over them whenever they appear to want it, and the cattle taken out, until the ground is dry and firm again. Two days watering, and, in very hot weather, even a few hours, will be sufficient; always remembering

to stop it, before the water begins to leave a scum on the land.

This plan of summer-feeding water-meadows, has been adopted by a few farmers in this district with success. In South Wiltshire it has been reduced to a system, in the neighbourhood of Hungerford, and applied to breeding lambs, and fattening them for the London market, in a way that is well worthy of imitation, in those counties where the *sheep-field* is not indispensably necessary.

T I L L A G E.

The north-west part, or verge of the county, (which have already distinguished by the name of the Cotswold part of Wilts, from its similarity to the soil of the Cotswold hills in Gloucestershire) may be said to be the only entire tract of land in this district, which is kept in an arable state.

I have already stated the soil to be almost uniformly a stone-brash, but it is very differently managed in different parts of it, and but in a few instances on the best plan.

It has been often said, that men are more apt to be led by custom and imitation, than by reason and observation. This is particularly the case in this part of North-Wiltshire. When this district was in open common fields, (and which it appears to have been at no very distant period) the same system of sheep-folding was pursued, and perhaps very properly, as is still used on South-Wiltshire downs. And the same system is still pursued at this time, when the greatest part of the county is inclosed, and where they have neither down land, nor water meadow, nor very little pasture land, and frequently upon land neither proper, nor at all times safe for sheep; and the same kind of sheep, which, in South-Wilts, are kept to walk five or six miles a day, are here kept (comparatively speaking) to stand still.

About

About Hullavington and Grittleton, where the husbandry seems to be the best in the district, the general series of crops is, what is usually called, the six-field system:

1. Wheat.
2. Oats.
3. Turnips.
4. Barley.
5. Clover-mown.
6. Clover-sed, and summer-fallowed for wheat.

This course is certainly particularly applicable to the sheep-fold system, in those parts of this district where the land is naturally too light, and too weak to bear a frequent repetition of wheat. But it certainly merits enquiry, whether the sheep-fold system, which at first originated in necessity, when the country was in a common-field state, is the best to be pursued at this time, when the greatest part of the land is enclosed; and especially on those parts that are cold and wet, and subject to land springs. And whether, instead of improving, it does not tend to impoverish, a country, which has neither down nor water meadow, by keeping more land in tillage for the food of sheep, than they can support by their dung; by the exclusion of cow stock, to make room for sheep, and by the necessity of raising a great quantity of oats for the support of the extraordinary number of horses, necessary to manage land under this system, and which crop of oats, besides the expence of raising it, must certainly, when immediately following wheat, make the land foul for the whole round.

Turnips.—As to green crops, it has been already stated, that turnips make a regular part of this six-field system. But a good clean crop of turnips, cannot well be expected on land which has already successively borne a crop of wheat, and a crop of oats, especially where almost the whole dependence for dung is on the sheep-fold. If the turnip crop is light, as is frequently, and must necessarily be the case, on

§ land

land in this impoverished state, the dung left, by feeding them off with sheep, is also light, the succeeding barley crop is light, and the clover frequently fails entirely. These are the defects, even of the best system at present, in this district.

An attempt will afterwards be made, to point out a better mode of managing this land.

Much of the land, in this part of the country, is very wet and full of land springs, and ought, by all means, to be drained; and many parts of it would pay much better, to lay down to pasture.

Sainfoin.—The Sainfoin might be cultivated to great advantage, in many of the driest parts of this district, the soil being peculiarly proper for it. It is indeed frequently sown, but often in soils that are too cold and too wet for it, where it is soon overpowered by the couch-grass. The rage for sowing as many acres of corn as possible, without regard being had to the probability of a good crop, is a great injury to the husbandry of this part of the district, not only in this article but in many others.

In the vale part of the district, particularly on the gravel, and some parts of the sand soils, the land is of that rich quality, that it bears corn every year, and that of almost every kind.

But in the deep, cold lands, over the bastard lime-stone rock, of which the quantity, though dispersed, is very large in this district, the land is of that cold, retentive nature, that it is almost impossible to say what it is fit for. It generally bears a good crop of wheat. It is entirely improper for barley, and seldom proper for beans. Under a common-field system, it is usually of very little value, and where it has been inclosed, it has not improved equal to the expectations of the owners; and it does not run kindly to grass: perhaps, the latter defect may be owing to its not having been sufficiently drained.

A real, permanent improvement, on this kind of land, is an object well worth the attention of those to whom it belongs.

S

This

This kind of land has usually a year's fallow during which time it is plowed as often as possible; the weather is dry; but plowing in the wet does injury.

M A N U R E S.

It has been already said, that, notwithstanding the difference in the soil and situation of the two districts of the County of Wilts, the sheep-fold is the depending manure of the south-east, or down part of the county, it is upright, and it is equally right on the loose parts of brash soil, on the north-west verge of the county, and on all the soils that are too light and loose, and requiring to make them heavier and closer. But there are many instances in this district, where the clay veils the surface, and where, though the land is not heavy, and wet, but also full of springs, where sheep is kept to a great disadvantage.

Land of this description, when properly drained, runs kindly to grass; and where it does it will do better, and particularly for a dairy, than in its natural state. Even parts of it, converted into pasture, would, by increasing the quantity of cattle, increase the quantity for the rest.

Probability of marl.—But in this part of the country permanent manure should by all means be sought; great improvements will, or can be made, till such time as marl may be found. Neither chalk nor lime are to be had, except it be possible that marl may. Stone-brash land, or rock with that of this district, is seldom without marl under it. It has been frequently said, that there is marl about Grittleton and its neighbourhood, but

not sufficiently calcareous to be of service. The Cotswold farmers, particularly about North Leech, maintained the same argument ten years ago, and for the same reason, because they had never given it a fair trial.

Since that period they have found out the use of it, and used thousands of loads.

The vein has, in many instances, a promising appearance; but so little is it attended to, that there have been some instances, where *the cold clay vein* has been used instead of it, and done harm instead of good; and the marl, which was not used at all, thereby got discredit. This is an object, well worthy the investigation of the landholders of this part of the county.

This improvement, if it could be effected, would not only double the value of their land, but would enable them to practise that kind of convertible husbandry, which is peculiarly adapted to the soil and country*.

The kinds of manure used on the arable land, in other parts of the district, are variable; but stall-dung is the chief dependance, except where a situation near great towns gives an opportunity of purchasing manure.

In cases where some arable land is annexed to a grass farm, it is too common to put too much of the dung on the arable; and restrictions are sometimes thought necessary to prevent it, and to enforce the purchasing of dung for the arable land.

Grass land management.—The management of grass land has been entirely changed within a few years. It was formerly thought a sufficient manure for the grass land, to fodder the cattle upon it with the hay growing on the estate. But in deep, wet lands, this management did more harm than good: the treading of the cattle poaching the ground, and

* This system is successfully practised on a soil nearly similar about Radstock, in Somersetshire, where the land, after being exhausted with crop; and laid down to grass, will so far recover itself by marling, as to be worth immediately from 30s. to 40s. an acre for at least twenty years after, when it will again bear a repetition of the same manure with the same effect.

making it wetter, when its great fault was, that it was already.

This has occasioned many land-owners to build sheds for wintering cattle, not only fat cattle, but whereby the occupiers are enabled to take their cattle in November or December, or sooner, if it requires it, and keep them off it until the grass is fit for them in the spring; and as straw is necessary for management, a little arable land is a necessary adjunct to such a farm.

Dung.—The dung made by such stall-foddering on the land in different modes and at different seasons, the most approved mode is, to carry it out as the cattle are gone from the stall, and lay it in heaps in the spot where it is to be used, and to spread it in August; and it is reckoned the best husbandry, to let the land that has been mowed, soon after the hay is off.

A few farmers have dung enough, to cover all their land oftener than every eight or ten years; but so small a part of the after-grass is immaterial, and compensated by the certain gain of a plentiful crop in September or October.

This husbandry, with the addition of drainage, if necessary, (particularly with covered drains) with early and early mowing, and the practice, now becoming common, where it is practicable, of mowing and feeding the land alternately, has been the chief cause of the improvements of the grass land of this district. The tendency of these improvements is, to get an earlier grass in the spring, and thereby, in fact, to shorten the summer, an object of very great consequence to a dairy farmer. Those who are lucky enough to be able to shorten the summer by early water meadows, find an advantage in the time which is easily to estimate.

Soop-othes.—In the neighbourhood of towns, these are frequently and successfully used as a manure.

on rushy, wet lands, that have been lately drained. About four waggon loads to an acre is the usual quantity, and the autumn the usual time of spreading.

Lime and earth.—Lime mixed with earth is frequently used as a manure, particularly in the dry upland pastures: but composts of earth, taken from the sides of the fields, and mixed with dung, lime, ashes, &c. &c. as practised in many counties, particularly in Devonshire, are not much in use in this district; perhaps not so much as they ought to be.

Coal-ashes, soot, &c.—Coal-ashes are in so great demand for the young clovers, as seldom to be used on the grass lands.

Soot is generally bought up at a great price for a spring dressing, for weak crops of wheat.

Wood-ashes are generally too dear to be used as a manure, until the soap-boilers have done with them.

I M P L E M E N T S.

This district of Wiltshire being *not generally a corn country*, no uniform system of ploughs, carts, and other implements of husbandry, prevails in it. Those most common in use, are the same as are used in the south-east district, and which have been already described; but as the soils and situations are more various than in that district, more new ploughs have been introduced, and particularly a lighter kind of two-wheel plough, and in some instances the swing plough; but no new kind seems as yet to be the *favorite of the ploughmen*. Until that object can be accomplished, it is in vain to introduce new machines in agriculture.

In the stiff, wet lands, the ploughmen generally use a foot plough on the fallows, because a large clod of earth will stop a wheel, or throw a plough out; but on wheat stubs they prefer a wheel plough.

Oxen.

Oxen.—There are some oxen used in this district, but they are not in general use; and, notwithstanding oxen are much used on similar soils in Gloucestershire, horses are by much the favorites here. The usual reasons given for using oxen are, that in the north-west part of the county, where the land is chiefly arable, the present system of sheep-folding requires all the grass for the sheep stock, and of course that there is but little room for oxen.

And in the interior part of the county, where the quantity of arable land is comparatively small, there are few farmers who do not *wish* to keep two, three, or four horses, and those are usually sufficient for their plowing.

If they kept mares for this purpose, and bred colts, the expence of keeping them would not be all loss. But the comparative expence, or the comparative profit, of many branches of agriculture, not only in Wiltshire, but in all other counties, are seldom enquired into.

Men, in general, are fond of walking in the way in which their fathers walked safely: and nothing tends to strengthen their attachment to it more, than the accidental fall, now and then, of an enterprizing mind, who attempts to deviate from it.

Breeding oxen is not *the fashion* in Wiltshire; and where they are not bred, it is in vain to think of introducing them *generally*. Why so few are bred in the county, and particularly in those parts of this district where grass land abounds, is a question not easy to be answered.

The dairymen say, that the advantage their situation gives them, of sending veal to the London and Bath markets, makes it their interest rather to fat their calves than to wean them, even for cows for their own stock, and much less for oxen. While the opponents of the long-horned cows say, that the oxen are generally so ugly, and the heifers frequently such bad milkers, that the farmers are never certain of breeding such as they would wish to keep, and therefore prefer buying milch cows (of which they can have a choice) to breeding them; and instead of buying oxen, buy horses.

As

As these arguments have been long and obstinately disputed, and the best farmers and most intelligent men in the district, have not yet made up their minds upon them, it is possible that both parties may be, in a certain degree, right, and, of course, neither entirely wrong.

S E A S O N S.

PERHAPS there are no two counties, where there is more variation in the soil, and, of course, in the seed time and harvest, than in this district.

Corn-harvest.—The north-west, or driest part of the stone-brash land, is sown and harvested nearly as early as the downs of the south-east district, while the low, cold lands, are frequently a month behind in both.

In fact, a great part of the land of the latter description is much better calculated, as has been already observed, for pasture than arable. It cannot be made dry and warm without being well drained; and it is a very difficult matter to make drains in so stiff and retentive a soil, that will not be injured by being plowed over in wet seasons.

In a district of such variety, it is impossible to fix any particular period, at which operations, in themselves uncertain, and in which no regular system is pursued, begin or end.

But in the management of the hay-harvest this district excels.

Hay-harvest.—The dairy farmers, and, in particular, the graziers, are much more attentive to the quality than the quantity of their hay. It has been already remarked, that they make a point of haining up their meadows as early as possible in autumn, and, of course, are able to mow early in the summer.

It is not uncommon to see grass mown, not only before it is in blossom, but even before it is *all in ear*; and to this it is owing, that it is more common to fat cattle with *hay alone*,

alone, in North Wilts, than, perhaps, in any county in the kingdom.

And by this, the dairymen are able to keep up the milk of those cows that calve early, and from which calves are fatted, which would otherwise shrink before the springing of their grass, and never recover during the summer. And the advantage they get by early after-grass, and by the duration of that after-grass till a late period in autumn, fully compensates for the loss of quantity in their hay crop.

W A S T E L A N D S.

ALTHOUGH the greatest part of this district appears to be inclosed, and it contains no very extensive entire tracts of waste land, yet there are numerous small commons in almost every part of it, in a very neglected, unimproved state: and there are many parishes, in which there are still common-fields; and those in a very bad state of husbandry.

The greater part of the common-fields lie on the stone-brash land, on the north-west side of the county; and others in the deep, strong land, from Calne by Broadtown, towards Highworth; but the commons lie chiefly in a north-east line, from Westbury to Cricklade, through the center of the richest land in the district.

There are numerous instances, in which the common-field arable land, lets for less than half the price of the inclosed arable adjoining; and the commons are very seldom reckoned worth any thing, in valuing any estate that has a right on them.

Although great part of this district appears to have been, at no very remote period, in a commonable state; and although the improvement on the lands, heretofore inclosed, has been so very great, the progress of inclosure therein has been very slow during the last fifty years. The reason seems

seems to have been, the very great difficulty and expence of making new roads in a county naturally wet and deep, and where the old public roads were, till within the last few years, almost impassable. But this reason having now nearly ceased, by the introduction of several new turnpike roads through the district, and by the spirit which now so generally prevails, of making good the approaches to them from the interior villages; it is to be hoped, that so great an improvement as that of inclosing and cultivating the commonable lands, will no longer be neglected.

The tract of commons which are mentioned to lie in a line from Westbury towards Cricklade, are detached and dispersed in numerous pieces, and belong to a variety of parishes, but the whole content of them is supposed to exceed three thousand acres. And though the greater part of them at present turns to very little account, not only from the wet, rotten state, in which they lie every winter, but from the unprofitable kind of stock that are usually kept on them; they want only inclosing and draining, to make them as good pasture land as many of the surrounding inclosures.

The improvement by inclosing them might, in many instances, be taken at from fifteen to twenty shillings per acre; and, indeed, inclosures of commons of this description frequently improve, not only the commons themselves, but also the adjoining inclosures, by preventing the occupiers from continually mowing the latter, and carrying off the hay.

There are a few heaths in this district, (and but a few) which might be improved by plowing. There being but few instances where there are alternative manures, such as lime, chalk, marle, &c. which are properly adapted to them, to be got very near them, the greater part of them, particularly those about Bradon Forest, would, in general, pay better for planting.

Very great improvements might be made, by inclosing the common-fields in this district; and particularly those which are in need of draining, such as those in the deep, cold vein of land about Broadtown, Elcombe, &c. many of which would be much more valuable, if turned into pasture land,

T than

than in their present arable state. Even the common-fields in that part of this district, which is apparently the driest, viz. the north-west part, are so much in need of draining, that few of them are safe for sheep in a wet autumn. This can only be remedied by inclosure; and no greater proof can be adduced of the necessity of it.

In fact, the open lands of this district, small as they appear to be, when compared with the land already inclosed, yet, being capable of such vast amendment by dividing and draining, hold out a source of future improvement to the landholders in this district, of many thousands a year; for the neglect of which, there seems, at present, very few reasons. Those few will be afterwards stated, and attempted to be obviated.

With respect to the decrease of population, already felt in consequence of former inclosures, or to be apprehended from future ones, it has been already observed, in our remarks respecting the south-east district of the county, that the extinction of lifehold tenures, which has been gradually taking place from the last century, tends, undoubtedly, to decrease the number of farmers; and that, though this event may be sometimes hastened by inclosures, yet that it may, and frequently does, take place without them. But in this part of the county, where land is in general so valuable, the effect of consolidating small farms will not be so visible as in South Wiltshire. The vast improvements made on the lands in consequence of inclosure, particularly by draining, and by the laying down to pasture such land as was too wet for arable, has increased the rental of the country so much, that there will, probably, be always land sufficient for the occupation of the inhabitants of it.

It has been already stated, that there are a great number of small freeholders in this part of the county; and as these divisions of property have generally happened in the inclosed parts, it has tended to retain those inhabitants, who would have been otherwise driven out by the extinction of lifehold tenures.

In many parts of the district that are still in a common-field state, the landholders would be much greater gainers by an inclosure, than it is possible they can in many parts of the south-east district of the county; as there are so many parts of the land, that, when inclosed, may be applied to the purposes of a small farm, without the necessity of keeping a flock of sheep to manure it; viz. by keeping that part which will be necessary to remain in arable, on a turnip system, either for feeding cattle or sheep, or for wintering sheep for the down farmers; by laying down the wet parts to grafts, either for the dairy or for feeding; and, by applying the sand lands on a garden system, to raising esculent vegetables. While on the thinner and poorer parts of the north-west parts of the county, which must necessarily continue in an arable state, the improvement to be obtained from inclosures, must be derived from putting the occupation into fewer bands, and making farms of such a size, as can be managed to the greatest advantage of the tenant, the landlord, and the community.

With respect to the decrease of *labourers*, in this part of the county, there is very little to be apprehended from inclosures. So little manual labour is done to the uninclosed land, in its present state, that every alteration that has improvement for its object, must increase manual labour, and, of course, the number of labourers.

The fencing and draining the land, and making and keeping good roads, in a country naturally so deep and wet, will be a perpetual source of employ for labourers.

These are the improvements, which have already so wonderfully increased the value of land in this district; and as so much remains to be done, there will probably be, in future, more complaint for want of labourers, than for want of work to employ them in, especially in the neighbourhood of the manufacturing towns.

L A B O U R.

THE price of labour, in this part of the county, is usually dearer than in the south-east district, especially near the manufacturing towns.

The winter price of a great part of the district, is seldom less than seven shillings a week for constant labourers, and frequently eight shillings for occasional ones, especially for those who are employed in hedging, ditching, draining, &c. and very few labourers will work at these prices without the addition of small beer. This is a heavy tax on the farmers, and often hinders them from making expensive improvements, where much manual labour is required. And even these prices, high as they are, must be increased, if the employ which the women and children have hitherto had, in spinning for the cloth manufactories, should be lost, by the introduction of machinery to do that work at home, which has hitherto been done in the country villages; unless some mode can be found, to employ them in any other kind of labour equally profitable.

The hay-making and harvest prices, are from 7s. 6d. to 9s. a week. Mowing grass, 2s. an acre, and sometimes more; and corn in proportion; and, generally, with the addition of small beer, and sometimes, in urgent seasons, victuals.

The commencement and cessation of labour, varies in different parts of this district, in the same manner as it is already described to do in the south-east part of the county.

D R A I N I N G.

THE use of covered drains, has been long known in many parts of this district.

They have been made in many different modes, with turf, with wood, with stone, but chiefly with the latter, on account

count of the facility of getting them, there being but few parts of it without stone, of some kind or other, within a moderate distance.

Stone drains.—The stone of the corn-grate rock, which compose the under stratum of so large a portion of this district, is of a peculiarly favorable flat shape for under-drains; and no land requires it more than the vein of cold-clay, which so frequently accompanies this rock. Much of this kind of land has been so drained, and much remains yet to be done. The drains of this stone have been, in general, made about ten or twelve inches wide, with perpendicular sides. In some cases, the stones are so placed, as to leave a water-course at bottom, by setting two flat stones triangularly, to meet at the points; in others, and, perhaps, a better way, by covering the bottom with a flat stone, and then putting three other flat stones upright, leaving the water to find its own way between them; in both cases, filling up the residue of the drain to the top, or near the top, with loose stones: but the fault, in the greatest part of the under-drains that have been made, has been, that they have not been made deep enough to answer the purpose of draining the ground effectually; the object of them having been oftener directed to drain the water from the surface, (where perhaps it does in fact but little injury) instead of draining off the land-springs, which are in, or run upon, the under stratum, and which are poison to vegetation.

In some few parts of this district, where stones are scarce, and those not of a shape well-adapted to the purpose, particularly about Steple Ashton, much ingenuity is shewn in the different methods of draining, which have been introduced.

Turf-drains.—In some instances, they have drained land to the depth of three or four feet, by first digging a spit of earth out, and then boring out the ground with a three-inch borer, so as to form a pipe of the depth required, and only three inches wide.

If the soil is loose, they have drawn in small bushes or houghs, so as to keep it from running together; but if strong and tough, and where the pipe is not required to be so deep, they have left the pipe open, and turning down the first spit upon the shoulders of the pipe, with the grafts side underneath.

In other cases, where only small round stones could be got, and those not plentifully, they made the drain taper, from nine inches at top, to nothing at the bottom, and perhaps three feet deep, and filled them up, by dropping first the smallest stones, and then the large ones, to near the top, and then finishing it by placing a thin turf on the stones.

Gravel-drains.—Where gravel is more plentiful than stones, screened or washed gravel has been found to answer the purpose very well.

In all cases, the general opinion seems to be, that those drains have lasted longest which have the least, or rather, the narrowest water-way, left at bottom; as, in that case, the force of the water has been sufficient to clear away any little obstacles that might chance to get in.

P ARING and BURNING.

P ARING and burning land is not used systematically, in many parts of this district.

In the cold lands of Bradon Forest, burnbeaking is generally practised for breaking up old lay ground, which had been formerly worn out with corn, and has been laid down to recruit. This land is then again exhausted with fresh crops, and again left to rest for another series of years.

The

The example of Devon and Cornwall is quoted for this husbandry; but it should be remembered, that in those counties the land is not only peculiarly proper to this husbandry, but burnbeaking alone is seldom depended upon to fertilize the land. In some parts lime, in others sea sand, and in all parts, all the stall-dung and compost they can get, either on their own farms, or from the roads, lanes, and wastes, is also used; and, after all, those who are called good farmers, make a point of not taking more corn crops than will leave the land in perfect health to bear grass.—A very different system from that practised in Wiltshire, and many other parts of England.

In most other parts of this district, burnbeaking, though occasionally used, is seldom looked upon as good husbandry; but only as a short way of getting a few crops, without regard to the future value of the land.

But paring, without burning, is very frequently used instead of ploughing, and particularly as a winter fallow of wheat stubs for a barley crop, on the cold, deep lands, that will not bear winter treading.

This answers the purpose of turning the weeds to rot, quite as cheap, and equally well with ploughing; and, by keeping out the wet, which would lie and soak the land all the winter, makes the land work much freer and better, in the spring, for barley.

BUILDINGS and LEASES.

IT has been already remarked, that the two districts of the county, however dissimilar in their soil and situation, and present system of management, appear to have been once, and at no very remote period, held by the same tenures, and occupied in the same common-field system; and in all parts of the north-west part of the county, where

common-fields and lifehold tenures remain, the customs are as nearly similar to those of the south-east district, as the difference in the kind of land will admit of.

It is needless, therefore, after speaking so fully on the state of farm-houses, and the nature of leases in that district, to detail it again here; as the few arable farms that are let for years, are usually leased on covenants very similar to those in the south-east district.

But in the dairy and grazing parts of the county, (which being the best land, were probably inclosed first) there are fewer traces of lifehold tenures remaining; and the land is, in general, divided into large farms, with the house in the most convenient part of them: and, perhaps, nothing contributes so much to the excellence of the dairy system of this district, as the convenient situation of houses in general, for reasons already given:

North-Wiltshire dairy farms are, in general, exceedingly well accommodated with conveniences, and particularly with milk-houses, and cheese-lofts.

The latter are frequently on a very large scale, as most of the North-Wiltshire cheese, being sold to factors, who contract for it by the year, requires to be longer kept than in countries where it is sold to chance customers.

The cow-sheds, calf-houses, and milking-yards, are also, in general, on a much superior plan to those in many other countries; and nothing encourages the landlord to make these conveniences so much, as the remarkable neat style in which they are, almost uniformly, kept throughout this district.

Usual terms of leases.—Leases are granted for various terms of years, in this district; sometimes for 21 years, but 14 seems the most general term.

The landlord is usually bound to repair the buildings, and the tenant the fences.

The landlord puts the gates in repair, and the tenant usually keeps them so, being allowed rough timber, or sometimes, (and perhaps a better mode) being allowed as many

~~many~~ new gates per annum, as the farm is supposed to require; the tenant putting them up, and keeping them in repair. The tenant is usually bound not to sell hay, or straw, and to spend the whole on the premises.

The entries are various; some at Michaelmas, and some at Lady-day; but, in general, at Lady-day. On the corn farms, and even on those dairy farms that have arable land annexed to them, the quitting tenant frequently takes an off-going crop of corn; and the farms are quitted, and entered upon, in many instances, in the same way as in the South-east district.

BENEFICIAL PRACTICES.

Dairy system.—THE system of making cheese, as managed in North-Wiltshire, would certainly be of the greatest service, in many parts of the kingdom, if it could be introduced into them; and the production of good cheese, in this district, from land totally dissimilar, as stated in the preceding observations, shews, that the goodness of this article does not depend so much on soils, or situations, as is generally imagined. Indeed, it is well known, that the fame of this district for good cheese, is not very ancient. The circumstance, of its being sold for Gloucester cheese till within these few years, shews, that Gloucestershire had the *name* first; though the quantity now made in that county, is far less than what is made in this district, according to the report of Mr. Marshall, who spent much time in both districts, for the purpose of examining into this particular branch of rural economy.

Indeed, many of the best dairy farms in the district appear, as has been already stated, to have been in an uninclosed state of arable, at no very remote period of antiquity;

and many of the farm-houses and buildings appear to be of modern erection.

The convenient situation of the houses and buildings of a great part of the dairy farms of this district, shews, that many exchanges in property must have taken place, before this desirable circumstance could have been obtained.—An object well worth imitation, in all countries where it can possibly be adopted; and, perhaps, there is no *single*, local circumstance, that contributes so much to the excellence of the dairy system of this district, as the general convenient situation of the lands round the houses, as a common center; so that the dairymen are able to drive all their cows home to milking, and, thereby, to put all their milk together of an equal temperature; and, by beginning their work much earlier in the morning, they can make cheese twice a-day during the whole season.

This is impossible to be done, where servants must be sent to milk cows in detached and distant inclosures; as is too frequently the case in many dairy countries, and particularly in the county of Somerset.

Good butter is made in every part of the kingdom, because the process is simple, and known every where; and if the same methods were practised in making cheese, in other countries, as are used in this, there seems no good reason why cheese, of equal goodness, might not be made in many other countries.

As Mr. Marshall has so fully detailed the methods used by the North-Wiltshire dairy-women, it is unnecessary to repeat them here.

But it may be proper to add one general remark on making cheese; viz. that there are few countries, which are famous for *bad cheese*, where the reason may not be traced much oftener to a fundamental fault in the process of making, and, particularly, in that essential article the rennett, than to any particular, local fault of the soil or situation, or even to want of care and attention in the dairy-women.

“*Draining*

Draining of Land.—Another practice, in this district, is the attention that has, of late years, been paid, in the district, to the draining of land.

The great object of manure, is to warm and excite fermentation in the land; but the land must first be in a state to receive it, or it is useless to put it on.

Manure may, almost, as well be thrown into the water itself, as put upon land so soaked and poisoned with water, as to be incapable of being warmed by the manure.

This improvement, which may be called the basis of all other improvements, in a wet, cold country, can never be too much recommended, and is well worthy of imitation in many other counties; in which, though quite as necessary, as in this district, no kind of attention is paid to it.

IMPROVEMENTS FOR CONSIDERATION.

Breed of cows.—THE management of the dairy part of this district has been a source of so much profit, as well as credit, to the county, that it certainly must, in its principle, be right; and, while there is so much to admire, it would be invidious to cavil at trifles. Whether the dairy-men are wrong, or right, in their choice of the kind of cows, will, probably, be hereafter determined. If they could buy another kind of cows, *immediately fit for the pail*, as easily as they can the long-horned ones, it is probable, that kind might not be so universal; but it is clear, that they think they get *nothing* by breeding their own stock, and, perhaps, they may *think right*.

The cows they buy, are bred in a country whose cheese does not stand so high in repute as that of North-Wiltshire, and, of course, may be bred cheaper than they could breed them at home; but if this argument is well founded, are the North-Wiltshire dairy-men right in fatting calves?

Does not the fatting calves consume as much as the weaning of calves? And would not the amount of cheese they could make, if their cows dropt in March instead of January, or February, pay as much for fat calves; without reckoning the loss of the constitution of the cows, by calving in the winter. Undoubtedly, nothing has so much to keep up the high price of cheese as the amazing increase, of late years, in the quantity of winter veal sold, not only in the London market, but almost all the towns in the kingdom.

North-Wiltshire must send its veal to London on the same terms as other counties within the same radius can do; while that veal is made, at the loss of a sum which would yield 20 or 30 per cent. more than the quantity of cheese made in these counties. This is the reason why North-Wiltshire dairy-men wean so early, and why they make so little butter for sale. This seems to apply against their fatting calves.

But this is meant as a hint for consideration, and not as an object of censure.

: Arable management.—As to the management of the land, North Wiltshire, certainly, does not fit in with the rest of England.

It is a happy thing for the land owners that the predilection of the occupiers is for pasture land—Land so cold, and so wet in a great part of the vale land of this district, that it is not permanently improved while under the plough. *mention of a known fact, that the comparative value of equal native goodness, in a pasture, or an arable field, is usually at two to one, is a sufficient proof that lands that are cold and wet, should be laid down and drained; and this would increase the quantity of land available for the warm and dry lands, which would be better suited for tillage.*

This particularly applies to all the deep vales between Chippenham and Wootton Bassett.

As to the stone-brash land, in the north-west part of the district, it has been already observed, that the general system of husbandry, and particularly the almost entire dependence on the sheep-fold for manure, is not strictly reconcilable to reason, in many parts of this district. All the light and dry parts, which require treading to make them clover, are undoubtedly proper for sheep-folding; but many of the wet, cold parts, are not at all calculated for that system. Those of the latter description are by no means fit or safe for sheep without draining; and as that is seldom practicable to any extent, in an arable state, many of them should be laid down as pasture. Those parts which are already laid down, are remarkably sweet-feeding ground, and in that state of husbandry, the country would still be calculated for feeding sheep, but not on a folding system. The long-woollen sheep, either the Cotswold or the Leicestershire, are peculiarly proper for such kind of land, where a part might be always in pasture, and the arable land kept in that kind of husbandry that would produce green winter crops.

In those parts of the country, where the land is light and dry, the sheep-fold system might still be used. The large farmers would be much better able to support a flock than they now are, by laying down the wet parts of their land to pasture, and sowing sainfoin on the dry and poor parts; and the small farmers, whose arable land required folding, would find their account much more in taking in sheep from the down farms to eat their green winter food, than by keeping small flocks of their own.

It has been already remarked, that, notwithstanding the dairy system is so well understood, and is so very profitable in this district, there is, nevertheless, a strong propensity, in many parts of it, to grazing cattle. It is undoubtedly for the interest of the community, that cattle should be grazed somewhere, but it also is their interest, and still more so the interest of every individual, to apply his land to the purposes for which nature designed it. Nature never designed many parts of this district, and particularly the cold, wet parts, where oak timber is the natural weed of the country, for grazing.

grazing. On those soils the summer is too purpose, and they never can be applied to so great as that of keeping dairy cows.

C O N C L U S I O N

*Containing Answers to those Heads of Inquiry
the County at Large.*

W O O D S.

THIS head of inquiry will require two answers; to the underwood, or coppice wood; and to the timber of the county.

Underwood.—The county of Wilts was a very wooded county, and, till within the memory of man, wood made the principal part of the fuel in the farms and in the country villages.

The general introduction of pit coal (which are enabled to bring, at little expence of their return waggons from market) has very much lessened the consumption of wood for fuel. And this degree, lessened the attention to its preservation on the downs, and near the center of the county, where it is most wanted. In many parts of the outer border of the county, there are very large and valuable woods which are very thriving, but in many instances much injured, by being subject to common rights, and in some instances for deer. Inclosure agreements for divisions of commonable lands, without regard of these incumbrances; but many improvements have hitherto been neglected, under an

do very little injury to woods, after they are seven years old; (the usual period at which they begin to be commonable). If the owners of such woods saw this injury in its proper light, they would not hesitate to make ample compensation to the commoners, to induce them to relinquish their common rights.

The stools which produce underwood, or coppice wood, may be defined to be "underground pollard trees."

Like other pollard trees, they have "their youth, their perfection, and their decay." In the first and last of these states, they are particularly susceptible of injuries. And although in strong, thriving, flourishing woods, cattle may do but little harm to the underwood, after it is seven years old, yet in weak, decaying woods, the shoots are not strong enough to get out of their reach by that period; and the wood, by being continually cropped, will, in a few years, decay and die; and while woods are in a state of commonage, all young plants, which may spring up spontaneously, or may be planted therein, will also be liable to be cropped, and few of them only can come to perfection.

The uses of underwood in this county, being so very many and indispensable, viz. hazel for hurdles and hedging, and spars for thatching; ash and willow for wheelwrights and carpenters uses, particularly for ship-cribs and implements in husbandry, and various other uses; the preservation of it is become an object of consequence, especially since the late great advance in the price of coals, both at Newcastle and in Somersetshire, has again made it worth while to raise wood for fuel. In that respect, the centre of the county finds a serious want of wood; and it would be well worth the attention of those, who have land proper for it, to apply it to that purpose.

There are many situations in the county particularly proper for the growth of wood, but none more so than the peaty edges of the sand vein about Manningford, and other parts of the Pewsey Vale. No part of Wiltshire is more in need of wood. There is no part where it would grow faster, or yield more when grown, nor is there any use to which.

which the land not be applied, that would bring so much profit to the owners.

Timber.—The sorts of timber, natural to the county, may be almost reduced to three, oak, ash, and elm.

The cold soils, on the west side of Wiltshire, are peculiarly favourable to oak; the sands of the south part to ash; and the gravelly vallies, and deep loams of various parts of it, to elm; and although many parts of the county appear to be bare of timber, yet there are so many other parts where the soil is so peculiarly adapted to its growth, that the produce of the county is fully equal to its consumption.

Beech timber is not common in the county; and although it grows so very plentifully in the adjoining county of Hampshire, there is none grows spontaneously in Wiltshire, except on the very edge of the county towards Hampshire.

If the plenty or scarcity of timber may be ascertained by its price, timber is certainly not scarce in Wiltshire. Oak timber sells in the rough from 1 s. 6 d. down to 1 s. ash from 1 s. 6 d. down to 9 d.; and elm from 1 s. down to 9 d. per foot. At these prices it will barely pay for growing, and whenever the price rises, the growth will be proportionably encouraged, it being necessary for the preservation of *any timber*, that its price should keep pace with the price the land would produce, if applied to corn or grass.

Elm timber will always be plenty, wherever the soil is favourable to it, as it makes a good shelter, its shade does *little* harm to the hedges, and its leaves and roots *none* to the land. But oak and ash timber being undoubtedly injurious to the tenant, require the fostering hand of the landlord to protect them, the former being hurtful to the fences by its shade, and the latter being particularly injurious by its roots, to the arable farmer, and by its leaves to the dairy farmer (ash leaves communicating an incurable bad taste to the butter, during the time of their dropping in autumn.) And to this cause it is owing that ash timber, though so very necessary for implements of husbandry to the corn farmers,

and

and for utensils used by the dairy farmers, is nevertheless getting scarce in the county; and if it cannot be propagated in hedge-rows, should be encouraged as much as possible in woods.

Spirit of planting.—But in speaking of the state of the woods of this county, it must not be omitted to remark the amazing spirit of planting that has, for some years past, been diffused through every part of it.

It is certainly owing to the residence of so many noble-men, and great landholders, in this county, that the spirit of improvement is so general; and while it is difficult to point out almost one gentleman, that has not contributed something, in proportion to the extent of his land, towards ornamenting the county by plantations, it would be invidious to point out any particular person as a great planter. A list of the names of the resident nobility, and gentry, in the county of Wilts, would be a pretty accurate list of its planters.

And to this attention, to the beauty as well as the uses of timber, it is owing, that there are few parts of the kingdom where the timber trees, particularly the elms in hedge-rows, are better preserved, and less damage done to them, by trimming up the side branches, than in the county of Wilts.

PRICE of PROVISIONS.

The prices of provisions in Wiltshire, and particularly in the south-east part of the county, when compared with the other western counties, may be said to be high.

As the south-east, or down part, of the county produces very few articles of human food, except wheat, *that* is the only article which can be said to be cheap in that part; and so great an influence have the Bath and London markets on the price of other provisions, which are raised in the north and west parts of the county, that butcher's meat butter, and cheese, particularly the two former, are usually at least ten per cent. dearer, on an average, at Sarum, than

at Wells, or Shepton Mallett, in Somersetshire, and sometimes even twenty per cent. higher than at Exeter; and as these causes are likely to be permanent, the effects may be expected to be so likewise.

The certain demand for, and consequently the high price of, the produce of this county, is, undoubtedly, as has been said before, an advantage to the landholders of it; but it is, in another sense, a disadvantage to them, (*viz.*) in the article of labourers. Although the wages of labourers have increased considerably within these few years, yet it is now barely sufficient for their subsistence, and a few days illness brings them to the parish.

The parish rates are, of course, very high, and daily increasing; and if the system newly adopted, in the cloathing manufactoryes, of spinning the wool in the towns, by machines, which used to be done by women and children in the villages, becomes universal, the price of labour must still be very considerably increased.

Another great cause of the distress of the poor, in many parts of this country, and particularly on the downs, is the scarcity of fuel.

Coals are already advanced very considerably; and, let the price of carriage be ever so much reduced by good roads, or even by canals, coals must still be dear in many parts of the county.

Wood is the natural, and should be the depending, fuel of a great part of Wiltshire.

How necessary, therefore, is it for those who have woods, to preserve them, and for those who have not, to plant some? But as this must necessarily be a work of time, it may be useful to hint, that for a quicker remedy of this alarming inconvenience, a few acres of furze might be preserved from the plough, in those parishes where it already grows, and sown in those, where there is none *.

This

* Furze is a very tender plant when young, and therefore should not be sown till late in April, or early in May.

It may be sown, either alone, or with a crop of barley, white oats, or buck-

This might be sold for fuel, to those who could afford to buy, and given instead of parish relief, to those who could not. Those who have hearts to feel for the distresses of the poor, would, by this expedient, gratify their humanity; and those (if there are any such) who feel only for the preservation of their hedges, would find this a more effectual way to prevent wood-stealing, than a whip or a prison.

It is a melancholy fact, that, without any particular habits of oppression on the part of the farmers, or dissoluteness on the part of the poor, the labourers of many parts of this county, and particularly of South Wiltshire, may be truly said to be at this time in a wretched situation.

The dearness of provision, the scarcity of fuel, and, above all, the failure of spinning work for the women and children, have put it almost out of the power of the village poor to live by their industry; and have, unfortunately, broken that independant spirit, which, in a very peculiar degree, formerly kept a Wiltshire labourer from the parish-books.

The farmers complain, and with reason, that the labourers do less work than formerly; when, in fact, the labourers are not able to work as they did, at a time when they lived better.

There is no necessity of heightening this melancholy picture, every landholder of the county knows it too well; and the resident magistrates, in particular, have it daily in their view; and, to their credit be it spoken, the landholders are using every exertion, by premiums, bounties, and other indulgencies, to introduce new kinds of employ for the poor, to supply the loss of spinning wool for the cloth manufacturers, or to induce the manufacturers still to bring them wool, by giving bounties equal to what they can save by spinning it at home by machines.

buck-wheat; and if it is preserved from cattle, will be fit to cut in three or four years.

It likes a dry situation, and if there is a depth of soil, it does not signify how poor it is.

ROADS and CANALS.

There are few counties in this kingdom, in which turnpike roads are so numerous, as in Wiltshire. The great thoroughfares from the east and south parts of the kingdom, and particularly from London to Bath and Bristol, and many other parts of the west of England, passing through the county.

There are no less than ten principal turnpike roads which pass through Wiltshire, viz. three principal turnpike roads from London to Bath and Bristol; two from Oxford to Bath and Bristol; three through Salisbury into Dorset, Somerset, Devon, and Cornwall; one from Portsmouth and Southampton, to Bath; and one from Salisbury, through Devizes, to Oxford; besides a number of intersecting turnpike roads, in almost every part of the county; and, to the credit of the county, it may be remarked, that there are few parts of the kingdom in which the system of making and keeping turnpike roads in repair, is so well known and practised.

The private roads, like those of all other parts of the kingdom, are good, or bad, in proportion to the plenty or scarcity of materials. Till lately, those in the north part of the country were bad to a proverb; but the introduction of several new turnpike roads in that district, has not only stimulated the inhabitants to make good their approaches to them, but has also enabled them to fetch materials for that purpose.

There is only one canal passes through this county, viz. the Thames and Severn Canal, and that only through a small part of its extreme north boundary. Several others have been proposed, and some are now in contemplation; but the fear that canals will deprive the water-meadows of water, makes many of the landholders averse to them; and, perhaps, the numerous good roads through every part of the county, make canals, in some measure, less necessary, while the difficulty

difficulty of carrying them through the hills, and of making their bottoms water-tight, in many parts of the county, renders them much more expensive than in many other parts of the kingdom.

MANUFACTURES.

The extent of commerce, or rather of manufactures, in the county of Wilts, is very great indeed; but the woollen manufactory is, by far, the most general.

Salisbury manufactures great quantities of flannels, and fancy woollens, and has a considerable manufactory of cutlery and steel goods.—Wilton, a large manufactory of carpets, and fancy woollens.—Devizes, a considerable manufactory, chiefly of fancy woollens.—Bradford, Trowbridge, Warminster, Westbury, and all the adjacent towns and villages, from Chippenham to Heytesbury inclusive, carry on most extensive manufactories of woollen goods, a great part of which is superfine broad cloths, kersymeres, and fancy cloths.

At Mere, and its neighbourhood, there is a manufactory of linen, chiefly dowlas, and bed-ticks.

At Aldbourn, a manufactory of cotton goods, chiefly fustians and thicksets.

At Swindon, and its neighbourhood, a considerable manufactory of gloves.

Indeed, there is scarcely a town in the county, that has not a manufacture of some kind or other.

The vast population of the county of Wilts, occasioned by their various and extensive manufactures, and the daily increase of population of Bath and Bristol, occasion a never-failing demand for all the productions of the land of this county.

The wheat, and in particular the barley, the cheese, and butter, and every other necessary of human food, are sure to find a market.

These are undoubtedly advantages, and very great ones, to the landholders of this county in general; but, perhaps, more

more to the landholders at a few miles distant from the seat of manufactures, than to those immediately opposite.

It seems to be allowed, even by the manufacturers themselves, that although the nation derives an important advantage from manufacture, in a general and abstract point of view, and though the landholders throughout the kingdom have been able to advance the rents of their lands very considerably, in consequence of an increased consumption of its produce, yet the manufacturers derive no real blessings to the landed interest of the country, except that they are *immediately situated*.

The advantages arising to the landed interest from the immediate neighbourhood of large manufacturing towns are increased demand, and, of course, an increased produce of the land. But this extends only to articles of daily indispensable consumption, such as butter, poultry, hay, straw, &c. In the heavier articles of life, such as wheat, barley, oats, cheese, butter, &c. the advantages are shared by the landed interest at a distance.

The disadvantages to the landholders on the other hand are increased population, and that of the most unprofitable class, viz. "labouring poor;" who, in times of a dearth, will raise the price of labour almost beyond the power of the farmer, and when trade in general, or that for the articles which they have been brought up, fails, fall into the poor rates, greater than the land is worth. In the woollen manufactories of this district, the poor rates have been the complaint of the landholders, and you may find that manufacturers have hitherto made them in some degree compensation, by the employment that they have given to the women and children of the neighbourhood in agriculture.

But, unfortunately for the landholders, even this compensation seems likely soon to be at an end, by the introduction of machines, to supply the place of manual labour, whereby all those parts of the manufac-

have hitherto been done in the country villages, will be done at the immediate residence of the manufacturers.

The consequence to the landholders will be, that the families of the labouring poor must fall on the poor rates, or the price of labour must be advanced, equal to the loss of the former earnings of the poor.

The consequences to the manufacturers themselves are not yet known. How far the general introduction of machines may affect this part of the kingdom, or the kingdom in general, by making those manufactorys "moveable" that have hitherto been "fixtures," time must determine.

There is no society instituted in the county of Wilts for the improvement of agriculture. But the great number of Wiltshire members, that help to compose the truly respectable body, called the Bath and West of England Society, are a convincing proof, that there is a turn for improvements in the county; and that, although there may be a few errors in the practice of Wiltshire farmers, they do not arise from a too stubborn attachment to old opinions and practices, but in some instances, even from attempts to get rid of those opinions and practices, by a substitution of others, which, though at the first view they were plausible, experience has shewn not to be adequate to the end proposed. But, as a general spirit is now excited in the county, to attempt improvements, there is no doubt but that it will, in time, fix on the proper objects. The great design of the Board of Agriculture is, to point out those objects throughout the kingdom; and the farmers of Wiltshire, it is believed, will not be the last to avail themselves of the benefit of that valuable institution.

O B S T A C L E S t o I M P R O V E M E N T .

There are *two* obstacles to improvements in agriculture, necessary to be particularly noticed here; viz. 1st. The frequency

frequency of small water-mills, as particularly injurious to water-meadows; and, 2dly. The difficulties thrown in the way of small inclosures of commonable lands, by the expence of an act of parliament; the first applying more particularly to the peculiar husbandry of Wiltshire, and the second being equally an obstacle to improvements in every other part of the kingdom, where there are lands still uninclosed.

Water-mills, which are very numerous in Wiltshire, and particularly in the south-east district, are, in many instances, exceedingly injurious to water-meadows.

It was formerly thought necessary, that every manor, whose situation permitted it, should have its own mill, for the convenience of the tenants to grind their corn; and a great part of these mills remain at this day, although few people now grind their own corn, and although, by the improved mechanism of mills, one can now do the work, that three or four did formerly.

Between Warminster and Salisbury, a distance of about twenty miles, there are nearly twenty water-mills; although one-third of the number (if well constructed) would be more than sufficient to do all the work of the country. Many of these mills are very injurious to the water-meadows below them, and frequently prevent the making new ones. And the same inconvenience exists on the rivers in general throughout the county, and particularly in the south-east district.

To remedy this, in all acts of parliament for inclosures, where there is a possibility of *making water-meadows*, or of *improving those already made*, power should be given to the commissioners to take from the mills, at stated times, *all*, or *such part*, of the water as should be absolutely necessary for the water-meadows below; and where such mills are really unnecessary, to direct them to be taken away. Such commissioners being, at the same time, impowered to fix an annual rent charge, to be paid to the owners of such mills so injured, by the owners of the land so benefited, as

is done in the case of canals, subject to the like appeal as is allowed in canal acts.

In parts of the country which are already inclosed, disputes frequently happen between owners of mills and owners of water meadows, and which are almost impossible to be explained or understood in a court of justice.

Perhaps a mode might be practicable, of empowering justices of the peace, at their quarter sessions, to order a reference to men of judgment in the neighbourhood, and to make their award, matter of record to bind the parties.

The other obstacle to improvements in agriculture, is the impediment thrown in the way of inclosures of commonable lands, particularly where the quantity of land is small, or the number of proprietors large, by the difficulty and expence of procuring acts of parliament for that purpose.

It has been already remarked, that there are a great number of common fields still remaining in Wiltshire, particularly in the south-east part of the county; and that in the north-west part, there are still many open common pastures. These are undoubtedly obstacles to all improvements in agriculture, and ought to be divided without delay.

There have been many common-fields lately inclosed in the south-east part of the county; but in the north-west part, inclosures have gone on very slowly for some years past. One reason has already been given for this, viz. the badness of the roads, and the difficulty and expence of making such new ones, as would be necessary in case of an inclosure. This impediment will soon be removed in North Wiltshire; and good roads will enable the owners of the adjoining commonable land, to make the most of it. And there is not a doubt, but that the greatest part of the commonable lands in the county would soon be divided, provided the *legal difficulties* which stand in the way of inclosures could be removed.

It is well known, that no commonable land, *be it ever so small*, can be inclosed or divided without act of parliament, unless by the consent of *all* the parties. That consent is always difficult to be got, and sometimes (particularly where some

of the proprietors are *minors*, or under any other *legal disability*) impossible. An act of parliament is then the only resort. But it frequently happens, that the quantity of open land belonging to one manor, is insufficient to afford an expence of, perhaps, near 300*l.* for an act, besides the subsequent expence of working a commission. And although the land-owners of *two or more* manors might join in one act, yet it is a difficult matter to get them to agree on the terms of it; especially when, as is often the case, their interests, or, at least, their claims, on the commonable lands, clash and interfere with each other.

The expences of an act of parliament for an inclosure, are not entirely occasioned by the *fees* of the two Houses, but by the delay and uncertainty of attendances in London, owing to the multifarious and increasing business of parliament; and which an annihilation, or even a reduction of those fees, would tend much more to increase than prehent.

Remedy proposed.—But there seems to be a mode by which this difficulty might be, in a great measure, obviated, and *small common fields or commons divided at a trifling expence, viz.* by empowering the justices of the peace to receive applications for that purpose at the quarter sessions; and particularly in those cases, where a very great majority of the proprietors were consenting, or where the objections were chiefly founded on *legal disability*.

Notice of the proposed application to the justices might be given (in the way now prescribed by parliament) in August or September. The bill of the proposed regulations of the inclosure, might be delivered at the Michaelmas sessions, and made public immediately after. Objections might be heard at the Epiphany sessions, and the bench might then determine for or against an inclosure.

Those who doubt the competency of a court of quarter sessions, to do this business properly, will consider, that the local information, so essential to the proper framing an inclosure bill, may be obtained, and the objections of parties aggrieved may be investigated, not only much *cheaper*, but

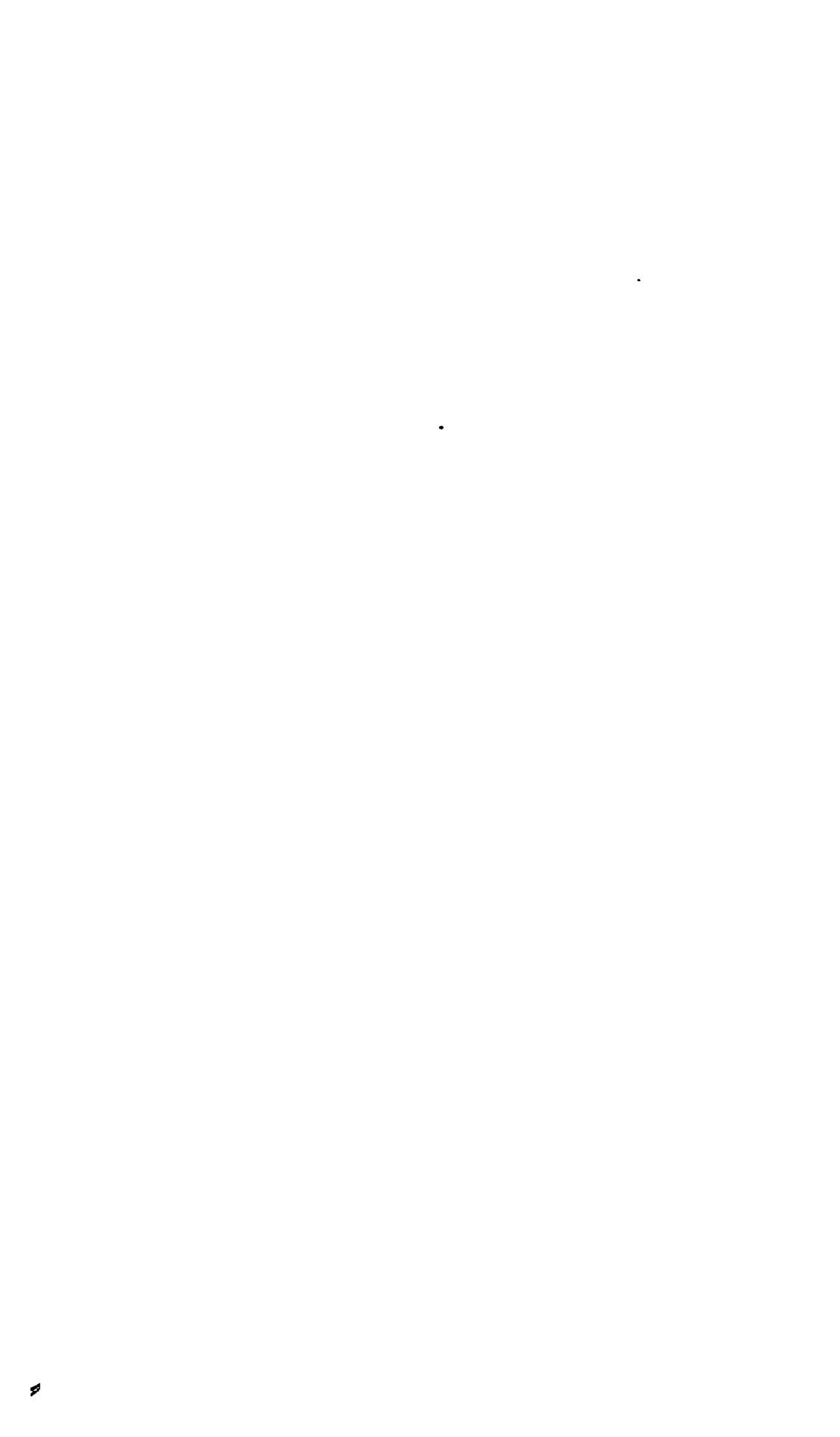
much *letter*, on the spot, than can possibly be done before parliament. And those who think it would be giving *too much power* to justices of the peace, will consider, that they have already a greater power than this, viz. the hearing and determining appeals that may come from parties aggrieved, under inclosure acts passed by parliament.

And, indeed, if it were thought necessary, all possibility of partiality might be prevented by prescribed rules and regulations, as to the *proportional majority* of consenting proprietors, absolutely necessary to the passing an order for an inclosure.

It may, perhaps, be expected by some, that in speaking of obstacles to improvements in agriculture, the payment of tythes in kind should be mentioned, and some plan proposed for its abolition. But it is not to be expected, that so great an alteration in the policy of the kingdom, involving so many valuable interests and important consequences, can be effected from the crude and undigested schemes of an humble individual. The Board of Agriculture may, perhaps, hereafter be able, from the combined information that will be collected by them, to determine whether any thing can be done in this important business, and what measures are the most likely to give general satisfaction to the parties interested.

But however the payment of tythes, in kind, may be an obstacle to the agriculture of the kingdom in general, it is but common justice to the clergy of the county of Wilts, to remark, that *so far as respects them*, that obstacle can hardly be said to exist. In many of the late inclosures, commutations, either in land or money, have been accepted, and the parishes discharged of tythes. And where tythes are still due, it is a fact, that there is scarcely one clergyman in twenty throughout the county, who takes them up in kind; although the laymen, who are in possession of tythes, too often set them the example of refusing to compound them at any price whatever.





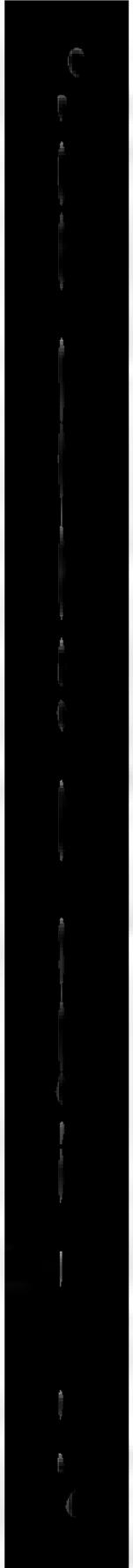
S

GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
OXFORD.

GENERAL VIEW
OF THE
W A R AGRICULTURE
OF THE COUNTY OF
OXFORD,
ONS ON THE MEANS OF ITS IMPROVEMENT
BY RICHARD DAVIS,
WKNOR IN THE SAID COUNTY,
TOPOGRAFHER TO HIS MAJESTY.
by R. Davis
CONSIDERATION OF THE BOARD OF AGRICULTURE
INTERNAL IMPROVEMENT.

LONDON:
PRINTED BY W. BULMER AND CO.
M.DCC.XCIV.

S 455
A 2
v.1
no. 3



ADVERTISEMENT.

THE following valuable communication, respecting the present state of Husbandry in the county of Oxford, and the means of its improvement, drawn up for the consideration of the Board of Agriculture, is now printed, merely for the purpose of its being circulated there, in order that every person, interested in the welfare of that county, may have it in his power, to examine it fully, before it is published. It is therefore requested, that any remark, or additional observation, which may occur to the reader, on the perusal of the following sheets, *may be written on the margin*, and transmitted to the Board of Agriculture, at its office in London, by whom the same shall be properly attended to ; and when the returns are completed, an account will be drawn up, of the state of agriculture in Oxfordshire, from the information thus accumulated, which, it is believed, will be found greatly superior, to any thing of the kind ever yet made public.

The Board has adopted the same plan, in regard to all the other counties in the united kingdom ; and, it is hardly necessary to add, will be happy to give every assistance in its power, to any person, who may be desirous of improving his breed of cattle, sheep, &c. or of trying any useful experiment

TO THE READER.

IT is requested, that this Paper, may be returned
Board of Agriculture, before the first of March next.

It is hardly necessary to add, that the Board do
consider itself responsible, for any fact or observation
tained in these Reports, which, at present, are print
circulated, for the purpose merely of procuring ad
information, and of enabling every one, to contribute h
to the improvement of the country.

January, 1794.

INTRODUCTION.

THE County of Oxford, extends in length, from the North West extremity, to the South East, fifty miles. Being of a very irregular figure, it is not above seven miles across near the middle, at Oxford; though in the more northern part of the County, it measures thirty-eight miles in diameter. The southern end is also narrow, being not more than twelve miles across, in any part South of Oxford.

It contains 14 Hundreds, one City, 12 Market-Towns, 207 Townships or Parishes, and about 450,000 acres; of which the part North of Oxford contains 309,000 acres, and the part South of Oxford 141,000 acres; as appears by the Topographical Survey which I have lately taken, and is now engraving by Mr. Carey.

Boundaries, &c.—Oxfordshire is bounded on the South, South West, and South East by the county of Berks; on the East by the county of Bucks; on the North East, by the county of Northampton; on the North West, by the county of Warwick; and on the West, by the counties of Worcester and Gloucester.

In so far as the counties of Oxford and Berks are contiguous, they are separated from each other by the rivers Isis and Thames. The river Thame, which runs through the County, falls into the Isis at Dorchester, and, from that place, the river takes the name of Thames. Other rivers in Oxfordshire are, the Charwell, which divides this County from Northampton on a part of the boundary only; the Windrush, the Evenlode, the Glym, and the Ray; besides numerous streams of inferior note: so that this County, may be considered as inferior to none, in point of being well watered.

Soil and Divisions.—The soil of a very considerable part of this County is shallow; of the stone brush kind; notwithstanding there are interspersed in divers places, rich loams, sands, and clays;

the description of which will be more particular, by dividing County into two parts, viz. the North and the South Division, and afterwards, subdividing each of those parts, into several districts.

I. NORTH DIVISION.

'The *North Division*, may be divided into four districts, to

1. The Northern corner of the County, containing in a great measure the Banbury and Bloxham Hundreds, is chiefly situated on deep land, partly arable, and partly in a pasture state, appropriated principally to the dairy.

2. South of the last is a very large extent, where the higher land or flat part is shallow, and, in general, more or less situated in an arable or convertible state; the sides of the hills a good deal mixed with clay, in a pasture state; and the bottoms, including the clay allotted for meadow land, by the sides of the several rivers, which add to the fertility and beauty of the County.

3. The South West corner contains the forest of Whichwood, the great part of which is woodland; and near to that, in the Botton Hundred, the soil is more gravelly, with parts of black earth and clay, much of which is adapted to pasture and meadow land. The situation is low and wet, notwithstanding which there are divers tracts of arable land in this district.

4. The district on the North side of Oxford, in which is comprised the common of Otmoor, is a deep rich soil, part arable, part in pasture, and part meadow land.

II. SOUTH DIVISION.

The *South Division*, may also be divided into four several districts, namely,

1. The part contiguous to and South of Oxford, which consists of various soils, part light and sandy, and part deep and rich; some being arable, and some in a pasture and meadow state. In this district is comprised a considerable tract of woodland, near to Stanton St. John.

2. From thence southward, by the sides of the Thame river, is a pretty large tract of deep land, the greater part of which is in pasture.

3. Between the preceding district and the bottoms of the Chiltern hills, the land is mostly in an arable state, chiefly deep and good, but diminishing in goodness as you approach the hills; when it consists of a poor white maum, being a mixture of white earth and chalk.

The Ickneild way, which crosses this County, may in a great measure be considered, as dividing the last described district from the range of Downs, which are in most places above the Ickneild way, and used as a sheep pasture, being poor land. South of which,

4. There is a large tract of land called the Chiltern hills, soil whereof is a mixture of chalk, with some loam and clay, but all full of flints. Much of this is appropriated to the growth of beech; but there is also a considerable tract of inclosures, mostly in an arable or convertible state, with some large wastes or commons; and some vallies of meadow land bordering on the Thames.

Upon a general view, besides the woods before mentioned, and some few other particular spots, the face of the County is marked with little woodland; except in those places which are near to the towns or capital mansions.

There are no hills of any steepness or elevation, except the range of Chiltern hills; the rest are only gentle declivities, which tend to vary the landscape, without preventing the labours of the plough.

Climate.—The Climate of Oxfordshire may be accounted in general cold, particularly the Westward part of the North division, where the fences consist chiefly of stone walls, and conse-

quently afford little or no shelter. It is cold also upon and near the Chiltern hills, especially on the poor white lands at the foot of the hills; where it is always to be observed, that the frost will take effect sooner, and continue longer on that soil, than it does on the deeper lands farther situated from the hills. The climate of the Chiltern country is moist, on account of the fogs which are more frequent on the hills and woods, than in the va

P A R T I.

PRESENT STATE OF THE COUNTY.

State of Property.—In regard to property, there are a few noblemen and gentlemen who have large estates, which, with the addition of the possessions belonging to the church, and the different corporate bodies of the university, form a considerable portion of this County. There are also many proprietors of a middling size, and many small proprietors, particularly in the open fields.

Size of Farms.—The size of the farms varies so much, that it is difficult to speak on that head; but they may be considered, generally speaking, as less than in most parts of England.

System of Husbandry.—The present course of husbandry is so various, particularly in the *open fields* of both Divisions, that to treat of all the different ways of management, would render this report too voluminous. It may suffice, generally to remark, that some fields are in the course of *one* crop and fallow, others of *two*, and a few of *three* crops and a fallow.

In divers uninclosed parishes, the same rotation prevails over the whole of the open fields; but in others, the more homeward or bettermost land is oftener cropped, or sometimes cropped every year. There are in many places, considerable tracts of land, that are well adapted to the growth of sainfoin, or other artificial grasses; but it is seldom that the farmers can agree to lay down any portion with such grasses, or even with turnips; though, for want of such change of cultivation, or of a temporary rest, the inferior part of the field, produces, in dry seasons especially, very scanty crops of corn.

In those fields that are cultivated in the course of one crop and a fallow, wheat, barley, and oats are the chief grain that is produced; and sometimes, by agreement of the occupiers, a few tares are sown in the fallow field, to cut green for the horses.

In those fields that are in the course of two crops and a fal-

low, the wheat crop succeeds the fallow; and the other field sown either with barley, oats, pease, or beans, or with all them.

In the open fields that are in the course of three crops and fallow, the most usual rotation is the following, viz.

Fallow,	Beans, pease, oats, or tares
Wheat,	Barley, or oats:

so that when a hitching takes place, it is either in the bean-field or fallow field.

The present course of husbandry in the inclosures, is likewise variable, but less so than in the open fields. On the strong dry lands, or clay soils, the course of three crops and a fallow is very general, and some clover is raised; but when the soil becomes more dry, and is not too much injured by the treading of cattle, turnips are introduced and fed off; and this is found to answer notwithstanding there may be considerable depth in the soil, somuch that some damage will happen in a wet season.

In the Chiltern country, one course of crops in esteem is,

1 Fallow for	5 Turnips
2 Wheat	6 Barley
3 Pease, or tares	7 Clover
4 Oats	

and then wheat again, but variable; or sometimes barley, which is called a grattan crop, but does not answer so well.

Another course in the Chiltern country, is

1 Fallow for	5 Barley, or oats
2 Wheat	6 Clover, or grass seeds, or
3 Barley	or two years
4 Turnips	7 Oats

and sometimes a crop of pease between the barley and turnips, but it is seldom attended with much produce.

In the vale part of the South Division, the following rotation of crops is in much use; though it is an objection with some, that the wheat crop does not come twice in the same number of years.

- | | |
|----------------------------|-------------------|
| 1 Turnips | 5 Pease, or beans |
| 2 Barley | 6 Oats |
| 3 Clover, one year | 7 Tares |
| 4 Wheat, on once ploughing | |

But almost all over the whole district of the light lands of the North Division, with which this County abounds, the following rotation is become very general in the inclosures :

- | | |
|---|--|
| 1 Turnips | 5 Wheat, on once ploughing |
| 2 Barley with clover, rye
grass, or trefoil, or mixed. | 6 Oats, pease, or beans ; |
| 3, 4 Clover &c. as above, either
one or two years, as the
plant will continue | 7 And in many places a part
is continued in sainfoin
till the plant is worn out. |

This course of crops, it is the general opinion, is the best system that can be adopted for light or stone brush soils, which cannot be fallowed too little ; and it has become a very general practice, on an inclosure taking place, to divide each of the estates (after such part is taken as is intended for permanent pasture or meadow) into seven divisions, as nearly equal as may be, for the purpose of adopting the six round course of husbandry before-mentioned, with the addition of one for sainfoin, or grass seeds ; and then obliging the tenant, by covenants in his lease, to follow the rotation prescribed. On the deep, strong, wet lands, it is thought that the old mode of three crops and a fallow, avoiding two crops of white corn in succession, cannot be mended ; various experiments having been made to cultivate such soils without a fallow, which have proved unsuccessful.

The drill husbandry has been very little introduced in this county, except as to beans or pease, which are generally either dibbled or drilled ; though much of the lighter parts of the soil seems to be well adapted to this system for wheat, barley, or oats.

Paring and Burning.—The practice of paring and burning, is in use in the part of the county bordering on Gloucestershire, but is not very general : opinions differ in regard to the utility and effect of this process. On light shallow lands, the practice is

said to destroy a portion of the soil, already too scanty and weak, and though it gives an unnatural and forced exertion for a short time, it renders the soil much worse in future. In lays of sainfoin worn out, and in rough pastures broken up, where the soil is not too shallow, it is often found beneficial, especially if followed by a crop of turnips. But great care should be taken, that none of the soil be *entirely* burnt with the trumpery and weeds, because, in such particles of the soil as are burnt so much as to become red, vegetation is destroyed; and this will be apt to happen, if the wind being high, the fire burns too fiercely: but what is left after burning is only black, the principle of vegetation is supposed to remain. It has therefore been recommended to light up the heaps in an evening, as at times the wind is observed to sink, particularly in the months of March and April, the common season for this operation.

Turnips.—The value of turnips appears to be well known, and, with some exceptions, no expence is spared in heeding and raising them, sometimes by planting twice or three times in the dry season. I have heard it recommended, though I cannot speak as to the effect, to mix old and new turnip seed together, which will come up at different times: and further, to steep one half of the seed so mixed, and not to steep the other; by which methods the plants coming at four different times, may stand a better chance of escaping injury by the fly or grub.

Implements of Husbandry.—The ploughs used in this County are of various sorts; but the most general practice is, to use the long swing or foot ploughs on the strongest lands, or for breaking up the lays; and the wheel ploughs (sometimes with one, and sometimes two wheels) for stirring the fallows, or for the ploughing of the light lands. It is seldom seen that less than four horses are used, even on light lands; though it may be said, that two horses with a proper plough, would be quite equal to the work. The using more horses than are necessary, seems to receive little attended to by the farmers of this County.

Waggons are very generally used, for bringing home the corn at harvest, and carrying it to market; and carts for the purpose of carrying the manure to the land.

Meadows and Watering. — The open field meadows, are often situated a considerable distance from the villages, and besides, generally lying in very narrow slips and parcels, are frequently even in lots changeable every year. These common meadows seldom receive any assistance of manure, because the arable lands, consume the whole of the manure in the preparation for the wheat crop. There is also another reason why the common meadows are neglected in this respect, because the after-seed is the property of all the occupiers in the parish at large. And to this circumstance may be attributed another ill consequence; which is, that in meadows, where there is no fixed time for turning in the cattle, the grass is suffered to stand so long, in order to obtain as much bulk as possible, that though there may be a considerable quantity, yet the quality is very inferior, having stood till the nutritive juices were dried away. The greater part of these meadows are near rivers, and are situated so low, as to be overflowed occasionally after hasty rains, and now and then even in hay time, insomuch, that the crops are either entirely swept away, or so greatly damaged as to be of little value, except for littering the farm yards. This overflowing, is accounted to improve the meadows, when the water does not continue long enough, to chill the grasses, so much as to destroy the more valuable sorts, and to cause a succession of aquatic plants, of inferior value, to take their places.

And though there is a variety of opinions, whether the improvement is greatest from foul or clear water, yet the most probable opinion is, that it is the spirit which the land imbibes from the water that brings on a fermentation, and promotes vegetation; and therefore, when the water has become foul by running over poor soils, that spirit is in some measure gone, unless in the case of its having passed over arable or other lands, which have been manured, and bringing with it a certain portion of such manures, which settles and remains on the land. But where the current is less rapid, and the water becomes more stagnant, the greatest injury takes place; and therefore the embanking of this kind of meadow land, so that the water might be admitted or kept out at

pleasure, and keeping the rivers and principal water courses properly cleansed, would be a very great improvement.

Inclosed pastures.—The inclosed pasture, or meadow land, is chiefly confined to the middle part of the County near to Oxford, where there is a pretty large tract of deep rich soil; fit for the pasturage of which, besides the quantity of butter mutton which is considerable, a great number of calves are suckled, and the veal sent to the London market. On various parts of the district there are some oxen, cows, and sheep fattened. As most of this tract of land lies wet, a very great improvement is experienced, by underdraining both pasture and arable; which is done in various methods, though none is so generally approved, or durable, as the drains that are made with stone, where it can be procured. The process of underdraining being expensive, is not so universally practised as it might be, especially where tenants have no leases; but I have often known landlords contribute to this expence. The E.s. x mode of underdraining, which has been introduced in some places by gentlemen on their respective farms, is found to answer best. Many of the past grounds are full of ant-hills, and the herbage growing thereto coarse, and refused by the cattle, who will be much reduced in feed, before they will touch it, even when the young grass comes up amongst the old, which is dry and withered.

In those greensward lands which are mowed, these ant-hills being levelled before the scythe can pass, the loss of ground so fore mentioned is prevented, and of course the land is of greater value. The earth which arises from levelling the ant-hills, which of itself contains the worst particles of the land, being mixed with the throwings of ditches, and a little muck, forms a good manure; there being less attention paid in this County than there might be to the making of mixens, or composts.

Herbage.—The plants that constitute meadow land, differ according to the variety of soils, some being more the natural produce of clay, others of loamy, sandy, or moory grounds; again, they vary according to the dryness or wetness of the soil. But the following account of two meadows examined at So-

Leigh contains the most predominant plants and grasses that are found in the meads of this County, with this difference, that in various soils some of the kinds are more abundant than others.

The first was a meadow, which was sometimes overflowed, wherein the grasses were,

1 Alopecurus pratensis	or	Meadow fox tail.
2 Poa trivialis	-	Rough stalk meadow grass.
3 Festuca fluitans	-	Floating fescue.
4 Poa pratensis	-	Smooth stalk meadow grass.
17 Carex panicea	-	Pink headed sedge grass.
18 Carex gracilis	-	Slender sedge grass.

The leguminous plants were,

5 Trifolium repens	or	Dutch, or white clover.
6 Trifolium fragiferum	-	Strawberry headed trefoil.
7 Vicia cracca	-	Bush vetch.
14 Pucedanum sativum	-	Meadow sulphur wort.

The general meadow plants were,

8 Plantago lanceolata	or	Narrow leaved plantain.
9 Sanguisorba officinalis	-	Burnet.
10 Leontodon autumnale	-	Autumnal dandelion.
11 Spiraea ulmaria	-	Meadow sweet.
12 Thalictrum flavum	-	Meadow rue.
13 Scabiosa succisa	-	Devil's bit.
15 Prunella vulgaris	-	Self heal.
16 Rhiananthus cristagalli		Common rattle.

By numbering the above, it is intended to shew in what estimation the herbage may be held of each, beginning with No. 1; so that those pastures which abound most with the higher numbers, may be considered as of little value. For instance, No. 14 is bad and hot to the taste, and No. 17 and No. 18, are of little value, being the effect of neglect of draining and manuring, by which methods they are got rid of.

In another meadow, which was moist, but not flooded; the grasses were,

1 Alopecurus pratensis	or	Meadow fox tail.
2 Poa trivialis	-	Rough stalk meadow grass.

- 3 *Poa pratensis* - or Smooth stalk meadow gr.
 4 *Festuca pratensis* - Meadow fescue.

The leguminous plants were

- 5 *Trifolium repens* or Dutch, or white clover.
 6 *Trifolium pratense* - Meadow trefoil.
 7 *Lathyrus pratensis* - Meadow vetch.
 8 *Lotus corniculatus* - Bird's foot trefoil.
 13 *Pucedanum sativum* - Meadow sulphur wort.
 14 *Ranunculus repens* - Meadow crowfoot.

The general meadow plants were,

- 9 *Plantago lanceolata* or Narrow leaved plantain.
 10 *Sanguisorba officinalis* Burnet (purple headed).
 11 *Leontodon taraxicum* - Dandelion.
 12 *Spiraea ulmaria* - Meadow sweet.

The foregoing account of herbage may be considered as comprehending the most general only, amongst the numberless *plants* and *grasses*, with which meadow land and pastures abound. But there are, in this County, two capital collections of the one at North Aston, the other in the Botanical garden at Oxford; and it may be considered as an acquisition to the publick, that the present professor of botany has lately undertaken the practice of farming, on a considerable scale; from whose super knowledge of the qualities of plants and grasses, much may be expected.

At North Aston are to be seen, above a hundred specimens of different grasses, together with about twelve hundred plants. The garden for the aquatics is admirably well constructed, and all are kept in excellent order. One of these plants is particularly worthy of notice, namely, the *festuca ovina vivipara*, brought from the top of Snowdon. It is of a very nutritious quality for sheep, and is said to abound in Spain, and to contribute in producing the fine wool of that country.

As it is very material and desirable, to bring pastureage to perfection on arable lands, I shall beg leave, before I quit the subject of grasses, to mention a new species of rye grass;

* This is the burnet on wet land, being different from the *poterium* or burnet on dry land, which bears a green head, and is the species that is cultivated.

though to do this I must pass a little beyond the bounds of this County, I trust the digression will be excused, on account of the importance of the occasion; as I am fully convinced, from repeated observations at various seasons, that the grass in question has a manifest superiority over the common sorts. It should also be noted, that the spot where I viewed this grass, at Northleach in Gloucestershire, is of that shallow stone brush kind, with which a considerable tract of Oxfordshire, about Burford, abounds.

The excellencies peculiar to this species of rye grass are the following :

1st. That in the autumn, when the other sorts are become of a russet hue, withered and decayed, and produce little feed, this is luxuriant and growing; the tufts thereof spreading over more than twice the space of ground that the common sort does.

2dly. That it will remain in the ground for seven or eight years, or more, depending on the quality of the land; whereas the other sort will not continue above one or two years, which is too short a time to give sufficient rest to the poorer sorts of land.

3dly. A particular advantage arises by its being hained up about Michaelmas, or before, whereby it will grow at all open times during the winter, and produce a valuable pasturage for the ewes and lambs in the spring of the year, when the turnips are gone.

The merit of discovering and cultivating this grass is to be attributed to that ingenious and intelligent farmer at Northleach, whose attention to the breed of sheep has made his name so well known to the public. It first attracted his notice by continuing amongst sainfoin, which had stood seven years; the seed was therefore first selected from this sort, and from time to time multiplied, till the cultivator has been able to accommodate many of his friends, and the public (who have now found out its value) with considerable quantities of the seed, but not so much as has been lately required; 50 quarters having been sent for in one order in 1792, when the whole that was raised that year did not exceed 16 quarters. It therefore seems to be of public utility that this valuable seed should be disposed of in smaller quanti-

ties, in order that it may be more universally dispersed; and has been the advice of several gentlemen, well wishers to improvements in agriculture, to raise the price to 10s. 6d. per bushel, including new sacks to send it in; which would have the good effect of causing those farmers to save seed, who now feed off, under an expectation of procuring more seed from the same place, at the original price of 5s. per bushel: and the cultivator is undoubtedly entitled to such an advance, for his attention to the public interest, in selecting, cultivating, and preserving the seed. One bushel is sufficient to sow an acre; and as the plant comes up weak the first year, it is advisable to sow it among corn, in order that the weeds may not get the better of it; or may be sown with turnips, by first hoeing and then harrowing in. But if the land is intended to be a permanent greensward mixture of the dactylis glomerata, or rough cock's foot grass, would prove beneficial, the seed of which is now selecting also the same person:

Woodlands.—The woodlands in this county may be divided into three sorts; viz. *groves*, or *spring woods*, consisting of timber only; *woods*, consisting of timber trees and underwood; and *pacies*, consisting of underwood only. Of the first of these descriptions may be considered,

The *beech woods* of Oxfordshire, which are confined to the Chiltern country, and consist of trees growing on their own stems, produced by the falling of the beech-mast; as very little is permitted to grow on the old stools, which are generally grubbed up. They are drawn occasionally, being never felled all at once except for the purpose of converting the land into tillage, which has been much in practice of late years. The beech wood thus drawn, is either sold in long lengths, called poles, or cut short billet-lengths, and sold for fuel. It requires some judgment to thin these woods, so that the present stock may not hang much over the young seedlings; at the same time, that in a south aspect an injury may take place, by exposing the soil too much to the sun; for it is to be observed, that the north side of a tree will produce a better growth of beech than the south side;

very reverse of which is the case with regard to corn. The succession of young trees in beech woods is much injured by admitting sheep or other cattle into them; and though it is said by some that sheep do no damage in winter, when the leaf is off, and find considerable feed from the grass, and other plants abundant in woods, yet it is the opinion of others, that the wool which is left hanging on the young stock is prejudicial to its growth, supposing, what is doubtful, that the sheep do not crop them. Some improvement might be made by keeping better fences, particularly against commons, where a wide ditch is an essential part of the mound; and by transplanting the young beech from those parts of a wood where they are too thick (so that the strongest would destroy the weakest) to those places where they do not stand sufficiently thick, there being spots of both these descriptions to be found in most woods.

There are some oaks and ash trees in these woods, dispersed among the beech, which have sprung up in such places where the seeds have dropped, or been carried by birds, or other means. These seldom grow to any great bulk, though sometimes to great lengths; but they are not very numerous.

Of the second kind are the woods before-mentioned, in the vicinity of Stanton St. John, called the *Quarters*. The soil here being a strong clay, is well adapted to the growth of oak. There are many spots of woodland of this description dispersed about various parts of the country. Coppices do not abound in this county. Indeed there are very few of any extent, except those called coppices in the forest of Whichwood; though these having trees in them, are more properly woods. I would beg leave, on the ground of some experience, to recommend to gentlemen the cultivation of coppices on their respective estates. Many spots might be found that would turn out to great advantage, by being applied to this purpose; and the rather, since there can be no doubt, but in proportion as improvements take place in husbandry, a greater stock of sheep will be kept, and of course there will be a greater demand for hurdles used in folding them, and

for other fences. It is worthy of notice, that on the moist part of the land, ash and willow may be cultivated to the greatest profit.

Waste Lands.—There are in most of the uninclosed parishes, either small or larger tracts of wastes or down-land, which are appropriated chiefly to the feed of sheep. The range of Chiltern hills, which cross the southward end of the county, are of this description, being in many places too steep to plough. In the more northern part of the county there are considerable tracts of down-land belonging to most villages, which are often overrun with ant-hills and coarse herbage, being of little value, and chiefly appropriated to the pasturage of young cattle; or sometimes, where they are good enough for that purpose, and sufficiently extensive, of oxen for the use of the plough.

The most considerable, and at the same time most valuable, tract of waste in this County, is the common of Otmoor, situated near Islip; which contains, as near as can be ascertained, about four thousand acres, and is commonable to eight adjoining townships. This whole tract of land lies so extremely flat, that the water, in wet seasons, stands on it a long time together, and of course renders it very unwholesome to the cattle, as well as the neighbourhood. The sheep are thereby subject to the rot, and the larger cattle to a disorder called the moor evil. The abuses here (as is the case of most commons where many parishes are concerned) are very great, there being no regular stint, but each neighbouring householder turns out upon the moor what number he pleases. There are large flocks of geese likewise kept on this common, by which several people gain a livelihood.

It was in contemplation, a few years ago, to drain and inclose Otmoor, and it is a great pity such a valuable tract should not be improved to the utmost, for the advantage at once of the occupier, the proprietor, and the public.

It is not easy to ascertain the quantity of the other waste or down-land in this County; but it must be great, as there remain at this time upwards of an hundred uninclosed parishes or hamlets, to which there are wastes belonging in greater or lesser

quantities, although on most of them the commonable rights are stinted.

Live Stock.—The stock of cattle, both cows and sheep, of the late Mr. Fowler, of Rollright, which were sold by auction in the year 1791, reflects high honour on this county, and on the person who reared them ; * and although much of this stock was dispersed to different and distant places, yet there still remain in the county (in regard to the sheep stock in particular) divers of the lots purchased at the auction, and other stock bred from them since, that do credit to the judgment of the breeders, and to those persons in whose possession they now are. No well wisher to the improvement of stock would deem it a waste of time to take a journey, and view the sheep at Blenheim, Rousham, Brucern, Banbury, Walcot, Churchill, Holwell, and in various other parts of this county ; nor will the excellent breed of Cotswold sheep at Northleach (I trust) escape the notice of the gentleman who makes the Report of Gloucestershire.

* AT MR. FOWLER'S SALE.

	£. s. d.
13 Bulls (of which 9 were only one year old) sold for	1648 10 0
88 Cows and Heifers	2331 0 0
2 Bull calves	70 7 0
7 Cow calves	211 1 0
3 Welch cows, used as nurses	19 6 6
<hr/>	
Total of the neat stock	4289 4 6
<hr/>	
85 Rams, sold for	1239 18 0
92 Ewes	622 19 6
53 Threaves (or two year old ewes)	270 15 0
46 Ewe-togs (or yearling ewes)	132 13 0
18 Wether-togs	85 10 0
5 Shear-hogs	8 10 0
<hr/>	
Total of the sheep stock	2300 4 6
Total of the neat stock	4289 4 6
Total amount	6589 9 0

In this county, on the best of the pasture land, the short horned or Yorkshire breed of cows, are held in great estimation, being counted good milkers, as well as profitable to fatten off. They are usually very wide and fine in their hind quarters, often beautifully spotted, and may be seen in great perfection at many fairs in the County. In the northern part of the County at Rotherham, Chastleton, Brumpton, and other places, are some of the remains of the produce of the late Mr. Fowler's stock of the long horned cattle, which (as well as his sheep) originally descended from Mr. Bell's breed of Dishley, to whom every farmer attentive to the breed of cattle is greatly indebted. Various other kinds of cattle are found in different parts of the County, particularly the Lincolnshire and Warwick; but they do not appear to be in so much esteem as the Leicester and Yorkshire, though probably more hardy, and therefore better adapted to the poorer soils.

The breed of sheep is much attended to in the Northern Division of the County. The Gloucester and Leicester breeds have each of them their advocates; and great care has been taken to breed the respective sorts as near as possible to perfection. Both kinds are fattened to great weights; and the rams of each are let or sold at high prices. While the public opinion is divided as to the comparative merits of these two celebrated breeds, the judicious farmer will of course consider well his flock of ewes, and the situation and circumstances of his farm; and then take his cross with that strain which will furnish the points in which his present stock is most deficient, and the sort which are best adapted to the soil on which they are to be maintained.

In the Southern Division of the County, the Leicester and Gloucester breeds of sheep are rarely met with. The Berkshire and Nott sheep with mottled faces, and the horned sheep, are here prevalent; these horned sheep are bred originally from the Wiltshire, and sometimes a strain from the Hampshire is preferred by the farmers; or in those places where lambs are reared early, the Dorsetshire breed is in good esteem on that account. An opinion has been received in some places, that those sheep which are bred on the land they are intended to be kept upon,

more healthy and profitable than others, that come from a different, or better soil; on this account, near the Chiltern country, where the pastures are chiefly poor downs, and consequently require the hardiest sort, many flocks consist of a small kind of horned sheep, of which little can be said in favour, either of their excellence or shape; but the Berkshire Nott sheep appear to be gaining ground of these native flocks in estimation; it having been observed, that when the Berkshire and the horned sheep have been mixed in the same flock, the former have proved themselves the most hardy, by keeping in tolerable condition at such times as the feed was short, and the latter went on badly. It has also been remarked, that the horned sheep require to be oftener changed in their pasture, and will not eat the grass when stained by many of them lying in a small compass, so freely as the Nott sheep will; and it is another general observation, that the Berkshire sheep, when killed, prove heavier and fatter, than they appeared to be when alive; the reverse of which is the case of the horned sheep. The South Down breed of sheep have been partially introduced, but by gentlemen chiefly, and are also in great estimation.

Horses are almost universally used for draught. In many parishes having open fields, there may not be sufficient pastures for oxen, but in all inclosed parishes, where there are pastures, oxen might be introduced with great advantage; particularly in the vale, where there are no flints nor stones. There are many teams of oxen in the county, chiefly belonging to gentlemen, which draw by collars and traces; but the difficulty of procuring proper persons, that have been used to go with them, may be the reason of their not being in more general use. It is a custom with many farmers, who do not breed their own colts, to purchase them for their teams when rising two years old; some of which are sold for carriages, road waggons, or London drays, according to their strength and size, at four or five years old, and often yield good profit. But those horses, which are kept after that time to be worn out, may be considered as an annual loss; which is not the case with oxen; particularly as a profit will

always attend an ox in case he meets with an accident, who not so with a horse.

The Pigs in most esteem with farmers are those which will of a large size when fat; but I am convinced no sort is so preferable to a small family, or a poor man, as the Chinese, or a between that kind, and the breed of the country; because are maintained and fattened on less food than others, and cross they will come to great size.

It is worthy observation, that many boars are fed for the pose of making brawn, which forms a considerable article trade at Oxford, and other parts of the county.

Commerce and Manufactures.—The chief commerce carried on in Oxfordshire may be confined to the blanket manufactory at Witney, the shag manufactory at Banbury, and glove and polished steel manufactory at Woodstock; and have been informed by the farmers in each of those neighbourhoods, that labourers are quite as plenty for the pose of agriculture there, as elsewhere.

The employment of the female poor, on the southward side of the county, is lace-making; but in the middle and northward the more general employment is spinning.

Conclusion of this Part.—Thus far contains the report of the most material occurrences, that presented themselves to view or attention, both in the course of my tour round the county, and in divers observations made at former times which I have avoided entering too far into particulars, lest the report should become tedious and uninteresting. For though I should be deficient in gratitude, were I not to acknowledge the assistance that I received, in every part of the county, from some of the most intelligent gentlemen and farmers, as well as from my brethren in profession; yet I found the answers they applied to the general questions issued by the Board of Agriculture, vary so much, that to have given the whole of them, would have come within no moderate compass. I therefore judged it best to select the most important practices only, and such as were in the most universal use. I have further omitted mentioning

names of many skilful improvers, both gentlemen and farmers, in order to avoid being personal, by reporting some particular improvements which attracted my notice, whilst there might be others equally meritorious which escaped me, for want of having been informed of them. It therefore remains to treat of such improvements as have not been previously mentioned, under the distinct heads already enumerated; and for many of which I am indebted to the respectable authorities before recited.

P A R T II.

MEANS OF IMPROVEMENT.

It is the general opinion of the most intelligent and impartial men, whom I have consulted on this occasion, that the grand objects of improvement in Agriculture, may be reduced to the following heads:

First. Inclosing the common fields and waste lands.

Secondly. A commutation for Tithe, in some shape or other.

Thirdly. Preventing the monopoly of farms, which is the greatest evil attending on inclosures.

Let these things be done, and the rents kept within moderate bounds, and farmers will contribute much towards the rest. The spirit of improvement (especially in stock) is going abroad already in many parts of the country, and the establishment of a Board of Agriculture, will undoubtedly give a new stimulus to exertion.

I. A GENERAL SYSTEM OF INCLOSURES.

As it may be necessary to speak more minutely on the three subjects above mentioned, I will begin first by stating the principal arguments which are used *against* inclosures: which are, that the proportion to the number of inclosures, the poor's rates are increased, and the value of most articles of life enhanced; that a considerable quantity of land is taken up in making the fences; and further, that the expence of an inclosure act, makes a great deduction from the probable improvement.

In answer to the foregoing objections I would observe, that in regard to the poor's rates, inclosures are not to be blamed; if properly regulated, they would have a direct contrary tendency.

enabling the farmer, under a better system of husbandry, to raise more corn, and keep more stock; the natural consequence of which, would be greater plenty and cheapness. And as there is in most parishes as large a quantity of downs, or waste land, to be broken up and converted to an arable state, as of corn land that is laid down to pasture after inclosing, of course, supposing the quantity equal, no deficiency of work arises to the labourers; but on the contrary, more labour is required to cultivate the ploughed land on the improved system. And this conversion of down or waste into arable, may be allowed without inconvenience, on account of the grass seeds to be introduced on the arable lands to maintain the stock.

In regard to the land occupied by fences, supposing 25 acres in 200 thus taken up, such a quantity of land, when the fences are grown to maturity, will produce as much fuel, as, before the inclosure, might arise from a worthless uncultivated waste of 50 acres, hitherto over-run with bushes and furze, which may now be ploughed up, and produce valuable crops of grain.

But in the instance of stone walls, which are much in use in many parts of this country, the objection of a loss of land is trivial, as walls take up but a very narrow space.

Or the objection of the damage arising from hedges, may be entirely done away, by altering the clause in acts of parliament respecting the fencing, and leaving it optional to each proprietor either to fence his allotment, or leave it open after it is allotted to him *in several*; which was done in the last sessions of parliament, in a Berkshire inclosure act, where there was a large tract of distant down land, on which it would have been difficult and expensive to raise a quick, and there were no stones at hand of a proper kind for walls.

The expence of inclosing arises chiefly from the opposition of parties, or from bad management of the process of the business. Some parishes can be named, where the expence (exclusive of fences) has not amounted to more than one year's rent, and the advance of rent has been nearly triple immediately on the inclosure taking place. The improvement is found to be greatest in

convertible lands, of the stone brush or sandy kind, adapted to the culture of turnips and various grass seeds; and in extensive downs, fit for tillage, and marshy wastes that improve by draining.

Having spoken generally to the *objections*, it may now be convenient to enumerate some of the *advantages* arising from inclosures.

The first of these is getting rid of the restrictions of the former course of husbandry, and appropriating each of the various species of land to that use to which it is best adapted.

2. The prevention of the loss of time, both as to labourers and cattle, in travelling to many dispersed pieces of land from one part of a parish to another; and also in fetching the horses from distant commons before they go to work.

3. There is a much better chance of escaping the distempers to which cattle of all kinds are liable from being mixed with those infected, particularly the scab in sheep. This circumstance, common to all common fields, must operate as a discouragement to the improvement of stock; and it is a further disadvantage, that the occupier is limited both in regard to *number* and *kind* of stock, instead of adopting such a number and kind as are most suitable and proper.

4. The farmer has a better superintendance of his labourers when within the bounds of an inclosed farm, than in an open field.

5. The great benefit which arises from draining lands, which cannot so well, if at all, be done on single acres and half acres, and would effectually prevent the rot amongst sheep, so very common in open field land.

6. Lastly, the preventing of constant quarrels, which happen as well from the trespasses of cattle, as by ploughing away from each others land.

II. COMMUTATION OF TITHES.

It has long been disputed, what is the best system to follow when tithes are to be commuted. In this county, many inclosures have taken place within a few years, wherein all the several methods have been pursued. In divers of these inclosures the land has been left titheable as before, because the tithe-owner and proprietors did not agree on terms. In others, an annual rent has been fixed, to be paid out of each estate, varying according to the prices of corn, taken at stated times; and this method has been satisfactory in many cases. But the most usual mode is to set out an allotment of land in lieu of tithes, by which both rectorial and vicarial estates are often greatly improved in value: amongst other instances, I am favoured with the particulars (too copious to give here in detail) of a vicarage near Banbury, which improved from £. 105 to £. 220 a year immediately upon the inclosure; and at the expiration of a twenty one years lease, the value was further considerably increased.

On the subject of commutation of tithes however, if the matter is fairly viewed, it is right, briefly at least, to observe what is said on the other side of the question.

It is undeniable that, as matters are at present, Agriculture is daily improving, and therefore, though it must be confessed a desirable object to exonerate lands from tithes, yet it may be doubted whether they are so great an obstacle to improvements as sometimes represented. If a farmer occupies land of two descriptions, one portion titheable, the other exempt from tithes, it is natural to suppose he will be more anxious to manure that which will return him the entire profits, than that from which he is to receive a part only of the produce. He pays a specific sum for his farm; but from what part or parcel of land the money accrues is indifferent. His attention will be directed to that which, in the least given compass, and with the least expence, will render

the largest profits. But cases of this sort, comparatively rare and few in number, are not the proper instances to argue upon.

As to the objection of carrying the profits (when the tithes are taken in kind) to other lands, it is obviated, if the manure so made is properly applied. The profits arising in a parish, are expended in the parish; and whether they fertilize private property, or parishial glebe, the general produce is equally improved, and the public equally benefited.

Of the force of these arguments I hazard no opinion; but I should think myself deficient in the discharge of the commission confided to me, if, together with the most interesting facts, I did not also state the most material observations, which I have heard or which have occurred to me. That honourable Board, to whose consideration this Report is with all deference submitted, will I trust pay attention to the particulars that degree of attention which they shall respectively appear to deserve.

III. SIZE OF FARMS.

As to the monopoly of farms, it is a common but narrow policy in land-owners to throw several small bargains into one, in order to save some expence in buildings. It is seldom seen that very large farms are cultivated to so great advantage as small ones; and besides, they naturally tend to increase the poor's rate by rendering all labourers who cannot afford to be farmers, annihilating a very useful order of men, the small farmers; whose attachment to their country must of course be greater while they continue masters of some property, in their stock of cattle and corn, than when, by being reduced to labourers, they are without possessions. Every lesser article of consumption, which was formerly brought to market by this description of men, is consequently raised, by diminishing the sources of its growth and produce; such articles being beneath the notice of an opulent farmer.

IV. BENEFICIAL PRACTICES.

Being a practical farmer myself, on a small scale, I will beg leave to introduce an experiment or two of my own.

The arable lands, near to the bottoms of the Chiltern hills, constantly produce a considerable quantity of charlock, but in some years more than others; which depends, probably, on the depth of soil turned up, or the rain that falls at seed time. No other means are used to destroy this weed, than to mow off the tops with a scythe, at such times as it shoots higher than the corn, which is not always the case; and even this process is often neglected, under an idea that the ground is so full of the seeds, that if the whole was pulled up one year, there would notwithstanding be as much the next. Having two fields of barley, and one of oats, in which the stems of charlock were nearly as numerous as the stems of the corn, I was desirous to try the effect of weeding; and for this purpose, I procured a number of hands (women and children) just before the time of hay harvest, and set them to work, leaving a part of the oat-field untouched, in order to see what would be the difference. The weather being hot, and the charlock being spread open, and turned, in the manner of making hay, it soon became dry, and had a sweet smell; and when given to horses and cows, I have several times observed both refuse very good meadow hay, and prefer feeding on this charlock. I cannot ascertain the exact saving of hay by this means; but I believe it was not less than half the expence of pulling up the charlock. Whether less will come up on the part pulled than on that omitted, remains to be examined.

I have likewise found that the dirt taken up from roads repaired with flints, which was, till lately, considered as not worth the trouble of moving, on account of its consisting of so sharp a grit, makes a very good manure for grass land; and I may add, that since I began to collect this for manure, every one of my neighbours, convinced of its benefit, is following my example.

It has been recommended on former occasions, to lay to the

cottages of labourers a small portion of land, in such place might be converted into pasture ; and though I must for the present produce the two following instances, of the effect of such proceeding from two neighbouring counties, yet the instances appear to me, to be too much in point, to be here omitted. It is most needless to say, the authenticity of them is unquestionable.

The commonable land belonging to a parish in Worcestershire, which is situated very near to Tewkesbury in Gloucestershire, inclosed about 22 years ago ; and there was an allotment, containing 25 acres, set out for the use of such of the poor as received less than £. 10 a year, to be stocked in common. At that time there were about 16 people on the parish books, some of whom had families. Previous to the inclosure, there were some cottages that had land let with them, to the amount of 6 or 7 a year each. The occupiers of these cottages, with land annexed to them, were remarkable for bringing up their families in a more neat and decent manner than those whose cottages were without land ; and it was this circumstance, which induced the lord of the manor, (to whom almost the whole of the parish belonged) to lay a plot of land, from five to twelve acres (besides the common before-mentioned), to other of the cottages, and add a small building, sufficient to contain a horse or a cow, likewise to allow grafting stocks to raise orchards. In some instances, small sums of money were lent to these cottagers, for purchase of a cow, a mare, or a pig.

The following good effects have been the consequence of proceeding. It has not, in one instance, failed of giving an industrious turn, even to some who were before idle and profligate. Their attention in nursing up the young trees, has been so much beyond what a farmer, intent upon greater objects, can or will bestow, that the value of the orchards is increased to 40s. acre, in land which was of less than half the value in its former state. And the poor rates, have, from this cause, fallen to 1s. in the pound, or less, there being only two (and those very poor) people on the books at this time, whilst the adjoining parishes are assessed from 2s. 6d. to 5s. in the pound. These are lab-

fers, and good ones ; their little concerns are managed by their wives and children, with their own assistance after their day's work. Their stock consists of a cow, a yearling heifer, or a mare, to breed (from which a colt at half a year old will fetch from 3 to £. 5), a sow, and 30 or 40 geese. This, therefore, has been the means of bringing a supply of poultry and fruit to the market, of increasing population, and making the land produce double the rent a farmer can afford to give.

The other parish, to which I alluded, is situated within six miles of Leicester, and belongs to a nobleman whose family have for many years let small quantities of land, varying from four to twenty acres, with the cottages, after the rate of about one-fifth less than the same sort is let for to the farmers. These cottages, keep from one to three or four milch cows to make butter, from five to twenty lambs (being chiefly twins purchased and brought up by hand), one or more pigs, and raise from one to three or four young beasts yearly.

The consequence is, that about twenty families live comfortable as labourers, whilst the management of their stock employs their families, and themselves at their leisure time, which might otherwise be spent in an alehouse. The poors rates are only from 6d. to 8d. i.e. the pound, which may be considered as a saving to the parish of 60 or £.80 a year. It is true, that the landlord sustains a loss in the first instance of about £.30 a year in rent, on account of these lands being let cheaper than the farms ; but it is doubly restored, by enabling the farmers to pay a greater rent for their farms, on account of the poors rates being so easy.

V. MISCELLANEOUS OBSERVATIONS.

In the system of open field husbandry, a great improvement might take place, if the different occupiers, according to the

powers given them by a late act of parliament,* would agree to keep their lands in a more regular state of cultivation, and to turn down a considerable portion of the land with grass seeds or turnips. By this method, they would be enabled to maintain a large stock of sheep; and the small parcels of meadow land, would not be so essential and necessary as they still are, though in a less degree now than formerly. For it is to be observed, that in the parliamentary surveys, taken about the year 1649, and in other ancient valuations, the meadow land was at that time usually at a higher price, by the acre, than it lets for at present; which was probably owing to this circumstance, that the system of turning down arable lands with grass seeds was not then in practice.

It should be noted, that in the open fields near to the Chiltern hills, within the memory of middle aged men, much improvement has taken place in the management of the land, in consequence of which, more corn has of late years been produced, and the flocks of sheep are kept there superior in quality, in size, and number, to those of former times.

It is seldom that sufficient attention is bestowed in placing the buildings of a farm yard, so as to shelter it from the north and east winds. But if the buildings are already erected on the wrong side, a high wall will answer the same end; on which, and on posts, a shed may be raised if necessary, that will be useful to keep the implements of husbandry dry, as well as to shelter cattle; it is universally believed, that the same quantity of fodder will have a better effect on cattle that are kept warm and dry, than those which are exposed to bleak winds, rains, or snows. It is true, that the farm yards often are so carefully formed, but that the rain washes away the essence of the manure, sometimes into the streets or rivers, where the value of it, lost to the owner, is of no service to any one else.

In the course of my tour round the country, my attention was particularly attracted by two farm yards, in which the comfo-

* Intituled, "An Act for the better Cultivation, Improvement, and Regulation of the Common arable Fields, Wastes, and Commons of Pasturage throughout this Kingdom."

as well as the conveniences, appear to have been well considered and provided for ; the one was at North Aston, the other at Rousham.

It has often occurred to me, that painting all the implements of husbandry (a circumstance seldom attended to by farmers), is not a waste of money, because it adds to the durability of the wood ; at the same time that it has a neat appearance, and prevents the same machine from being of different weights when wet or dry.

The circumstances of farms are so various, that in granting leases the same covenants will not always apply properly to two farms in the same parish ; therefore, as no general rules can be laid down, so as to answer the purpose of preventing the farm from being injured, or over-driven, at the same time giving the occupier every fair chance of a livelihood, it may be advisable, to grant a greater latitude to the tenant at the beginning of the lease, and to confine him by proper restrictions the last six or seven years, as to the best rotation of cropping the land. And it would produce a good effect to the public, if every tenant was compelled to perform his full statute duty on the roads ; that is, to go six days with a team for every £. 50, as the cross roads of this County are in general very indifferent.

As the improvement of the breed of sheep in the southern part of the County, does not appear to have kept pace with the improvement that has taken place in the northern part, it is therefore to be presumed that a better kind might be obtained by making trials of different breeds. For instance, as the South Downs and Berkshire Notts, are both allowed to have much merit, and are nearly similar in their spotted colour, and other respects ; it is to be expected that a cross between the two breeds would be found well adapted to the pasturage of the country ; and from the information I have received, it is proved, that the South Down sheep will bear folding as well as any ; therefore, as it is for this purpose that the greater part of the sheep of the southern division in particular are kept, this hint may be well worth the attention of the farmer.

I trust it will not be considered foreign to the present purpose, to recommend to the notice of the honourable Board that useful

and necessary part of society, which comprehends the labourers. It is an observation frequently made, that much greater care is taken to prevent servants or others from gaining a settlement in parish, than by encouraging the poor, and making their habitations comfortable, to provide for a future supply of those, without whom the more laborious branches of Agriculture cannot be carried on. Though this practice does not seem as yet to have been productive of much evil, it must in its consequence tend to depopulate the villages; since in most places the cottages are more scarce than families to inhabit them; and many of the cottages are miserable huts, entirely insufficient to defend the inhabitants from the inclemencies of the weather. On the contrary, if the comforts of the lower class of people were better attended to, population, which increases at present, would still more rapidly increase.

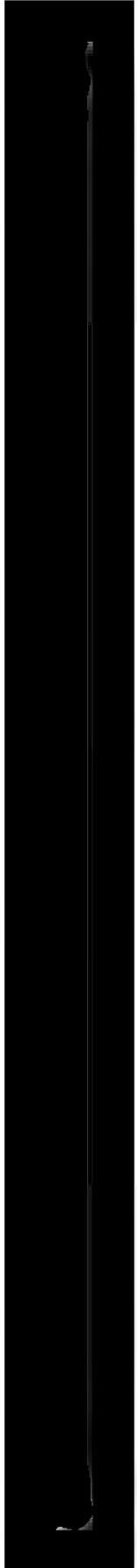
There needs no better evidence, than the great increase of the poor's rates, to prove that the present price of labour in husbandry business is not sufficient; and if it is inadequate, when provisions are moderately cheap, it must reduce the labourer and his family to great distress, when provisions are dear. At the same time, it must be confessed, that to regulate this point between the farmer and the labourer, to the best advantage for the publick, is a circumstance which requires much consideration. It is a remark of a person who often travels in the northern counties, where the poor people very rarely use tea or strong beer, that they appear to live as comfortably as the poor of this county did thirty years ago. It would have a good effect, if the farmer would take the trouble to discriminate between the well-disposed, honest, and industrious labourer, and particularly those having great families, and the contrary character; which might be done by giving to the former all proper encouragement in their power, for instance, by selling them corn for their own consumption at a moderate price, by setting them task work, allowing them leave to raise potatoes, and the like; so that such labourers as were deserving, might reap the full benefit of their extraordinary industry.

It is much to be wished, as well for the comfort of the poor, for the good of the community, that the laudable spirit, which

existed in some degree within these thirty years, could be revived; when the poor would exert themselves to the utmost, before they would apply to the parish for relief; whereas they are now not ashamed to apply upon every trifling occasion, as well as upon sickness, or other great emergencies. It is to be feared, that this is a difficult task to be accomplished, as it requires the most serious attention of the legislature, the wisest regulations of the magistrates, the strictest attention and prudence in the parish officers and farmers, and the greatest industry, sobriety, and frugality, in the labourers.

Conclusion.—It has been observed, that the man who should make two blades of grass grow, where before only one was produced, would be a greater benefactor to his country, than many whom fame has recorded among her chief favourites. It is near six thousand years since the precept was given to replenish and subdue the earth; and yet much of it, even where population is highest, continues to this day in its original state, uncultivated and unsubdued. The County of Oxford has large tracts of this description; though less, in proportion to its size, than some other counties; some too which are situated still nearer to the metropolis. It is to the honour of this age and country, to have made numberless discoveries and capital improvements in the various arts of commerce, of civilization, and peace. If Agriculture has not hitherto been cultivated with equal success, we may hope, that, under the protection of a government, which, amid the cares of a vast empire, and the solicitude of war, consults the domestic and permanent welfare of the kingdom; under the superintendance of the Board instituted for the express purpose of internal improvement; and under the auspices of a Sovereign, who in this department, as in others, does not disdain to set an example to his subjects; under this propitious assemblage of circumstances, we may reasonably hope, that Agriculture will soon be one of the first arts in point of perfection, as it is the foremost in point of utility and importance.

January 13th, 1794.



GENERAL VIEW
OF THE
AGRICULTURE
IN
BERKSHIRE.

GENERAL VIEW
OF THE
AGRICULTURE
IN
BERKSHIRE,
WITH OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT.

By WILLIAM PEARCE.

G.P.
DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE
INTERNAL IMPROVEMENT.

LONDON:
PRINTED BY W. BULMER AND CO.

M.DCC.XCIV.
1806

THE THERMODYNAMIC PRINCIPLE OF INFORMATION

ERIK J. OLSSON

Department of Physics
University of Minnesota
Minneapolis, Minnesota 55455

The thermodynamic principle of information is a generalization of the second law of thermodynamics. It is based on the observation that the entropy of a system is proportional to the logarithm of the number of states available to the system. This principle is applied to a wide variety of systems, including living organisms, ecosystems, and societies. It is shown that the principle can be used to predict the evolution of these systems over time. The principle also provides a new way of understanding the relationship between information and energy.

Journal of Statistical Physics, Vol. 100, No. 5, 1999
© 1999 Kluwer Academic Publishers. Printed in the Netherlands.

Received June 1, 1998; accepted August 1, 1998.
This work was supported by grants from the National Science Foundation and the Minnesota Department of Natural Resources.

Address reprint requests to Erik J. Olsson, Department of Physics, University of Minnesota, Minneapolis, MN 55455, USA. E-mail: olsson@umn.edu

Keywords: thermodynamics, entropy, information, living systems, ecosystems, societies.

INTRODUCTION The second law of thermodynamics is one of the most fundamental principles of physics. It states that the entropy of a closed system always increases over time.

In this paper, we will show that the second law of thermodynamics can be generalized to include living systems, ecosystems, and societies. We will call this generalized principle the "thermodynamic principle of information".

We will begin by defining the entropy of a system. Then we will show how the entropy of a system is related to the number of states available to the system. Finally, we will apply the thermodynamic principle of information to a variety of systems, including living organisms, ecosystems, and societies.

DEFINITION OF ENTROPY The entropy of a system is defined as the logarithm of the number of states available to the system.

Let S be the entropy of a system, and let N be the number of states available to the system. Then we have:

$$S = k \ln N \quad (1)$$

where k is a constant. This equation is known as the Boltzmann equation.

The entropy of a system is a measure of the disorder or randomness of the system.

The entropy of a system is also a measure of the information content of the system.

The entropy of a system is a measure of the energy available to the system.

ADVERTISEMENT.

THE following valuable communication, respecting state of Husbandry in the County of Berks, means of its improvement, drawn up for the use of the Board of Agriculture, is now printed, in the purpose of its being circulated there, in order that every person interested in the welfare of that county, may, if he pleases, have it in his power, to examine it fully, before it is published. It is therefore requested, that any remark, or additional information, which may occur to the reader, on the subjects treated of in the following sheets, *may be written on the margin*, and transmitted to the Board of Agriculture, at its office, where by whom the same shall be properly attended to. When the returns are completed, an account will be given of the state of agriculture in Berkshire, from the information thus accumulated, which, it is believed, will be far superior to any thing of the kind ever yet made publick.

The Board has adopted the same plan, in regard to other counties in the united kingdom; and, it is necessary to add, will be happy to give every assistance, power, to any person, who may be desirous of improving any breed of cattle, sheep, &c. or of trying any useful

EXHIBIT

S455

A2

v.1

No. 4

SEARCHED INDEXED SERIALIZED FILED

APR 19 1958

PREFATORY REMARK.

THE daily blessings received by mankind from the hand of Agriculture, and the increased comfort and wealth which every nation enjoys where husbandry is improved, are in themselves reasons, sufficiently urgent, to engage the attention of every person, who has the power of promoting its extension. But when we farther consider, that it feeds all other sciences and arts ; that it is the source of almost all our treasures ; that it employs the best sinews of our country (a hardy peasantry) ; that every improvement in it, is also a considerable advantage to the nation ; and that it is a constant incentive to industry, by its grateful returns : it is almost needless to remark, how very important and necessary, the protection, and encouragement, of all measures are, that tend to increase this essential support, to man's existence and comfort.

The recent establishment of a Board of Agriculture, must therefore give the highest satisfaction to every well disposed and liberal mind : Formed by the legislature on the generous basis of doing good to the community, and composed of men of eminent character, peculiarly attached to the laudable promotion of rural improvement ; it may be reasonably presaged, that under the auspices of a MONARCH, and of a PARLIAMENT, who have so fully manifested their regard to agriculture, the time is not far distant, when provincial prejudice, the check to all improvement, will yield to conviction, and new modes of correction will be adopted, as soon as they are pointed out, upon sound and rational principles. It may then also be expected that Great Britain will explode all bad husbandry, carried on upon erroneous opinions, and spread the better systems, now only practised in local spots,

ANSWER

1. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 2. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 3. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

4. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 5. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 6. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

7. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 8. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 9. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
10. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 11. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 12. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
13. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 14. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 15. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
16. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 17. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 18. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
19. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 20. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 21. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
22. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 23. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 24. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
25. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 26. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 27. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
28. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 29. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ 30. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

[8]

to every district, where they can be transferred, to a soil or situation favourable to their reception. Thus diffusing comforts to its inhabitants, increasing population, promoting industry, and consequently contributing in the most essential manner, to the permanent increase of the WEALTH, and PROSPERITY of the NATION.

SITUATION. EXTENT.

POPULATION.

THE many natural advantages the county of Berks possesses, in its situation, soil, and rivers, justly rank it, among the most distinguished counties in the kingdom.

Bounded on the north and east sides, by that pre-eminent river, the Thames, in a meandering line for upwards of 50 miles ; and by the Isis in like manner for nearly forty : having another navigable river (the Kennet), running from the south-west towards the east, through a rich tract of land for nearly 20 miles, before it joins the Thames at Reading ; and also having the smaller rivers, Loddon, Ock, Auborn, Kennell, and Lambourn, in different parts ; which, though not navigable, are well calculated for mills and flooding of meadows ; BERKSHIRE may be considered as a county, highly favoured by Nature, for the encouragement and extension of its agricultural produce. Its ready communication with the Metropolis, and the midland parts of England ; its excellent Roads, dry Soil, and salubrious Air, all contribute to make it a county, alike beneficial to the cultivator, the manufacturer, and mechanic.

Nor are its picturesque beauties to pass unnoticed : the diversified scene of hill, and dale, woods and cultivated land, that embellish the greatest part of the county, and which are increased in their effect, by the grand residences of many persons of rank, and opulence, which present themselves in all parts, fully evince the high estimation, in which its rural excellences have at all times been held.

The predominant soil of Berks, is a kind and fruitful loam, in some parts mixed with gravel, and in others with sand ; pleasant to work, and grateful in its produce.

The Vale of White Horse, by general acception, is confined to a few parishes west of Wantage, which is a rich deep soil, equal to the best parts of England. I shall not exaggerate however, if I state, that the whole of the county lying north of the Downs, (with the exception of a small district near Oxford,) is likewise of an excellent quality; and though not so rich as the Vale, is certainly a well adapted country, not only for the production of corn, but for the turnip system of fatting off cattle.

The greatest part of the southern side of the county, from Hungerford, to Windsor, (except a part of Kentbury Hundred, and some land on the south side of the Kennet, and the greatest part of Windsor Forest), consists chiefly of a gravelly loam; and though it may not admit, of so profitable a course of husbandry, as the north side of the county, may nevertheless be applied, to great advantage by the turnip system.

The hills, and downs, are chalk, with a thin soil on the surface, in some places inclined to gravel, in others to a blackish sand; the productive qualities of which have been almost exhausted by that most infamous of all practices on a shallow soil,—*Burn-Baking*.

This county is exceedingly irregular as to its form; being in one part nearly 30 miles broad, and in another barely 4. The greatest extent from East to West, is from Old Windsor to Hungerford; a distance of at least 44 miles: And if the mean breadth of the county be taken at $15\frac{1}{2}$ miles, I apprehend it will be as near the truth as calculations in this general way can be expected to be made. The number of square miles will, according to these dimensions, be 682; and the number of acres, 436,480: But as Mr. Rocque, in his excellent Map of Berkshire, published in 1761, has given the extent, and contents, of each parish, I am enabled by this means, to deduce a more particular statement of acres in it; which, on his authority, and my inquiry, as far as I could check it, I believe to be tolerably accurate; and which, for the general advantage of the county, I here subjoin.

[11]

ALPHABETICAL TABLE,
*Showing the Number of Acres in each Parish, in the
 COUNTY of BERKS.*

<i>Names of Parishes.</i>	<i>Acres.</i>	<i>Names of Parishes.</i>	<i>Acres.</i>
Abingdon	3528	Brought forward	96681
Aldermaston, and Wool-		Chieveley and Lack-Hamp-	
hampton	4305	stead	7987
Aldworth	1804	Cholsey	6114
Appleton	2049	Clever	1527
Arborfield	1301	Colchill	1886
Ardington	2191	Compton	3490
Ashampstead	2044	Compton, near the White	
Ashbury	4748	Horse	1320
Aston	2554	Cockham	6107
Avington	1211	Coxwell, Great	1261
Barkham	1562	Curnor	8841
Basselden	2904	Denchworth	723
Beedon	1747	Didcot	1116
Beenham, and Padworth	2773	Drayton	1760
Besselsleigh	928	Eastgarston	4158
Binfield	3303	Eton	1233
Bisham	2936	Easthampstead	4918
Blewbury	5947	Euborn	2466
Boxford	2483	Englefield	1572
Bradfield	3632	Englesham (part in Berks)	225
Bray	8558	Farnborough	2210
Bright Waltham	2049	Fawley	2615
Brightwell	2029	Faringdon	4686
Brimpton	1656	Fifield	1520
Buckland	4142	Finchhampstead	3854
Bucklebury and Standford	8123	Frilsham	837
Burfield	3993	Hagbourne	2673
Buscot	2778	Hanncy	4064
Catmore	676	Hampstead Marshal	1657
Chaddleworth	3393	Hampstead Norris	5798
Childrey	2508	Harewell	2100
Chilton, near Blewbury	1432	Hatford	1073
Chilton, near Hungerford;		Hendred, Great	2984
the part in Berks	1394	Hendred, Little	1926
<i>Carried forward</i>	<i>96681</i>	<i>Carried forward</i>	<i>191182</i>

<i>Names of Parishes.</i>	<i>Acres.</i>	<i>Names of Parishes.</i>	<i>Acres.</i>
<i>Brought forward</i>	191182	<i>Brought forward</i>	322413
Hinton Waldridge	2102	Shottesbrooke, and White	
Hungerford	2794	Waltham	3963
Hurley	4047	Sparesholt	5351
Hurst	6623	Speen	3355
Ilsley, East	3253	Standford, near Faringdon	2879
Ilsley, West	3187	Streatfield (part in Berks)	1071
Inkpin	3063	Steventon	2168
Kentbury	7210	Streatly	3527
Kingston Bagpuze	1139	Sulhamstead Abbotts	1899
Letcombe Regis	4268	Sulhamstead Banister	2166
Letcombe Bassett	1583	Sulham	685
Lambourne	13851	Sunningwell (see Radley)	
Laurence Waltham	3525	Sutton Courtney, with	
Lockinge, East	503	Hulgrove	3923
Lockinge, West	1787	Sunning, (the part in	
Longworth	4125	Berks)	7017
Mareham	6421	Sunninghill	3594
Milton	1373	Swallowfield	3756
Mortimer	3656	Thatcham	11491
Morton, North	1058	Tidmarsh	683
Morton, South	1080	Tilehurst	5114
Newbury	1705	Tubney	822
Oakingham	8248	Wallingford (two parishes)	1357
Padworth (See Beenham)		Wantage	6417
Pangborn	1663	Warfield	3232
Peasemore	1942	Wargrave	3970
Purley	952	Wasing	649
Pusey	975	Welford	4829
Radley, and Sunningwell	4798	Westwood Hays	1476
Reading (three parishes)	4632	Whiteham	1700
Remenham	1620	White Waltham (see Shot-	
Ruscombe	1172	tesbrooke)	
Satwell, near Wallingford	701	Windsor (New)	2579
Sandhurst	4870	Windsor (Old)	6230
Standford (see Bucklebury)		Winkfield	9414
Seacourt	865	Wittenham (Long)	1942
Shefford, Great	2112	Wittenham (Little)	1036
Shefford, Little	1019	Woolhampton (see Alder-	
Shellingford	1539	maston)	
Shaw	1708	Uffington	5484
Shinfield	4116	Ufton	2232
Shalborne (part in Berks)	1816	Yattingdon	1553
Shrivingham	8130	Total	438,977
<i>Carried forward</i>	322413		

From the foregoing table and my general observations, I consider,

The inclosed lands, parks, and woods to contain about	-	Acres.
		170,000
The common fields and downs	-	220,000
The forests, wastes, and commons	-	40,000
Roads	-	8,977
		<hr/>
	Total	438,977

In the twenty hundreds, which comprise the county, there are twelve market-towns, and about 200 villages and hamlets.

The population of the whole, exclusive of persons occasionally residing, is at least 115,000 souls ; of which 35,000 reside in the market-towns, as the following account more particularly shews:

Reading	-	8500	Wallingford	-	1800
Newbury	-	5500	Ilsleys	-	1500
Abingdon	-	4000	Maidenhead	-	1200
Faringdon	-	2000	Windsor	-	3500
Hungerford	-	2000	Oakingham	-	1700
Wantage	-	2100	Lambourn	-	1200
					<hr/>
					10900
					<hr/>
					24100
					<hr/>
					35,000

A great part of the above, as well as the remaining 80,000, I consider employed chiefly in agriculture ; for although there are a few manufactories established in some parts, the proportion of hands employed in them is so very small, when the aggregate is regarded, that I withhold distinguishing them.

This statement of the Population, I trust, will be found (should a more minute inquiry ever take place) not very wide of truth. I have taken every opportunity I well could, to ascertain this necessary information ; and in addition to my own inquiries, have been assisted on this subject, with the kind communications, of several candid, and obliging gentlemen, in different parts of the

[14]

For remarks, &c.

county, to whose readiness in aiding, and encouraging, the
measures proposed, by the Board of Agriculture, it behoves me
to bear ample testimony: Nor can I, as an individual, suffice
many civilities I received during my agricultural tour, to
without expressing my general thanks, for the flattering re-
ception I met with, in all parts of the county, and which I
will be accepted, in lieu of those personal acknowledgments,
which are certainly due to such instances of kindness, as I
experienced.

PRESENT STATE

or

AGRICULTURE, &c.

THE cultivation of land in all parts of England, has no doubt, of late years been greatly improved, and extended ; and though it may be a question, whether it has kept pace with the increase of Population, in that proportion it ought to have done, still it has in its present state, been able to support, and feed, a commerce far superior to that of any other Nation.

With the agricultural resources, that Great Britain has still in store, who can limit the increased greatness, and comforts, our country may attain, by a general spirit of improvement in husbandry being excited ?

That the greatest part of the improvement, and extension, I speak of, arises from INCLOSURES, is indubitable; they are the primary step, to increase of produce, and population, and consequently deserving, of every encouragement ; since not only the interest of the Individual, but that of the State, is closely combined in the good effects arising from them.

There are also two other causes, which in my opinion have greatly contributed to this national increase.

1st. The number of gentlemen of landed property, who now encourage, and make the study of Agriculture, their chief rural amusement.

2dly. The enlightened, and more liberal minds of the yeomanry of the kingdom, over those of their predecessors.

Happily for this kingdom, men of the above description are now to be found, in almost every part of it. Such characters cannot be too much respected ; for no longer blinded by old provincial customs of a bad tendency, they are daily shewing to their neighbourhood, proofs of such advantage to themselves, and to the community, which their rational practices in agriculture

[16]

For remarks, &c.

effect; that interest (if no better motive) will, I hope, so influence the minds, of bigotted, and contracted farmers, to those very methods, they before reprobated and deemed will innovation.

It must be admitted, that Berkshire has to boast, of as of these enlightened agriculturists as any county; but the methods followed by them, or any particular system not generally practised, would here be misplaced, and improper. I shall therefore proceed in reporting, in a general way, the present husbandry of the county; and annex under each head, as I proceed, what strikes me as the practicable outlines of improvement.

LEASES.

As I consider these, to be the first, and greatest encouragement to Agriculture, I shall begin with them.

I AM sorry to find, that the same prejudice, which of late years has so much influenced the minds of gentlemen of landed property, against the practice of granting their tenants leases, has too strongly rooted itself in this, as well as most other counties; which is certainly very detrimental to all good husbandry, and a great check to many improvements, which would otherwise, have been long since effected.

There are, it is true, some Estates granted on terms of seven, fourteen, and twenty-one years; but from the best information I could obtain, the quantity of land so demised, bears but a very small proportion, to the extent of the county.

There are also many estates, held by leases on lives, under corporate, collegiate, and ecclesiastical bodies, and some few still existing of a similar tenure, under lay-lords.

OBSERVATIONS.

In a country where the Soil is poor, and Population thin, there can be no measure adopted, for the improvement of the one, and increase of the other, so efficacious, and beneficial to society, as that of granting leases, for such terms as promise the tenant, a reasonable compensation, for his judgment, labour, and capital.

Next to a recommendation of this useful measure, I take the liberty of advising, that the contract be liberal on both sides; having for its object, the general good of agriculture; and with it, the reciprocal interest, of landlord and tenant, which may be secured by a few strong, and judicious covenants, adapted to the nature of the Soil, and which would answer the purpose of pro-

For remarks, &c.

moting mutual benefit, much better than the present numerous restrictions, many of which are become obsolete, and only to impede the tenant in his improvements, without producing good to the landlord in possession, or reversion.

As to leases on lives, they have a direct contrary effect, according to the Lessors they are held under. Those under colleges ecclesiastical, and corporate bodies, are unquestionably the most beneficial to society of any leases whatever; because, as the Lessors have only a life interest themselves in the estate, a life no sooner drops, than they are ready to fill it up, in favour of the lessee, by this means, preserves a permanent interest; which is the greatest encouragement an occupier of land can have; as many of these estates are small, they are the best barriers against the destructive practice too prevalent now, of monopolizing and adding farm to farm.

Such leases on lives as are held under lay-lords, it must be allowed, have a very baneful tendency; for as the lord has the reversion, or the fee, he generally refuses to grant renewals, unless upon heavy fines; his object being to let the estate revert, which means the tenant is cut off, from all hopes of preserving a permanent interest in it; and he therefore pillages it all he can, and too often suffers the buildings to be in a state of dilapidation.

SIZE AND QUALITY OF FARMS.

The greater proportion of this county, is divided into what may be deemed large farms : for unless it is from some local circumstance, it is very rare to find a farm, under one hundred pounds a year. In the Vale of White Horse, indeed, some smaller dairy, and grazing farms are found ; but I doubt there are more farms, from two to five hundred a year, than of any other size.

OBSERVATIONS.

The remark I have just made, on leases held under corporate bodies, in some degree supersedes, what I should have to say on the growing evil, of laying small farms together. In the open and hilly parts of this county, there is indeed some plea for large farms ; since the soil is to be made the most of by that kind of husbandry which depends on a large flock of sheep ; and which the little farmer cannot avail himself of.

But in the Vale of White Horse, and other parts where the land is good, or the country inclined to grass, there can be no reason, why farms in general, should run so large, as 300 or 400 acres.

This is a subject that has exercised the thoughts of many sensible men, and the pens of several authors of repute. I shall therefore withhold expatiating farther upon it, than to advise every person, who wishes to satisfy himself on this question, to compare the population, produce, and advantage, which the state and individual derive, from 1000 acres of land in one farm, in opposition to the same quantity of similar soil, divided into seven, or eight farms, of different sizes, from 250 to 80 acres, which may be found in many of the eastern, as well as the midland counties.

BUILDINGS.

FROM the size of the farms, the buildings are in general what might be expected ; very good, convenient, and comfortable. The farm houses are built substantially, with stone or brick, and usually tiled, on the southern side of the county ; but on the northern side, the Oxfordshire slate is much used. The barns are erected with the same materials, except that thatch is substituted for tile. The barn floors generally oak, except in a barley or pulse barn, where clay floors are sometimes found. Stabling always good ; because no farmers pride themselves on their horses, more than those of Berks. In short, it may be said, that the farm buildings all over the county, are respectable, and convenient : and their ox-stalls and yards, in the grazing parts, judiciously arranged for the fatting of cattle.

The usual custom of the county, is, for the landlord to put the buildings into good repair on the tenant's entering ; and afterwards to find all materials, except straw, for thatching. The tenant after his entry, pays all workmen's wages, and fetches the materials for repairs gratis.

OBSERVATIONS.

The custom, of the tenant's being saddled with the burden of repairing his farm buildings, too often causes a negligence on his part towards them, unobserved by the landlord, till the estate returns on his own hands ; for although there may be a clause where leases subsist, reserving a power for the landlord to examine into the state of repairs, and order what may be necessary, it is very seldom, he or his agents avail themselves of it ; the result of which is, that at the end of the term, or whenever the landlord and tenant part, there is a heavy expence falls on the owner, sometimes equal to two or three years rent.

This evil may in my opinion be obviated, by the adoption of

a plan that is daily extending its good effects, and which was originally introduced by my uncle, Mr. Kent, upon the estates under his care in Norfolk, and Worcestershire ; which by forming a mutual interest, in the preservation of the buildings between landlord, and tenant, confines this expensive out-going, into a moderate annual expenditure.

The outlines of the plan are, the landlord finds all materials for repairs (except straw), and is at half the expence of workmen's wages. The tenant employs what workmen he pleases, fetches the materials, and bears the other moiety of the workmanship. Thus a mutual interest subsists ; and that best of cautions, to avoid heavy repairs, is never lost sight of, " A stitch in time," &c.

IMPLEMENTS.

THE Berkshire waggon has long been noticed, for its peculiar lightness and elegance; and although in different parts of the county, it may vary some little in the construction, it combines, in the whole, three great recommendations, viz. easy draught; strength; and, from being built low, is better calculated to load, and unload, than most other carriages of the kind.

The carts are likewise formed on good principles, and well suited to the respective purposes, for which they are wanted.

In a county, so pre-eminent in its larger implements of husbandry, it is a matter of surprise, that the plough should be found a heavy, clumsy instrument, with a massy beam, share, and mould-board, much better adapted for trenching ploughs, than for the uses required of them.

The smaller implements of husbandry are also formed in many instances, very awkwardly; and although, some spirited farmers have introduced various useful implements, from other counties; such as the drill, the shim, and scarifier (all excellent for the soil of Berkshire), as well as improving the ploughs, and harrows, of the county; yet there are still to be found, many of the old school, so prejudiced as to think, that without heavy, unwieldy instruments, the land would not be properly worked.

OBSERVATIONS.

To facilitate the operations of agriculture, and to adopt a system of economy in its necessary labour, are very material, and obvious advantages, and such as the farmer, for his own sake, ought to listen to, since his interest is highly connected with their adoption.

I cannot, therefore, withhold censuring, not only the plough at present used in Berks, but the mode of working it. Four

horses, and two men, employed a whole day, in turning up an acre of land, even if it be a third tilth, is so extravagant, and unnecessary, on land, such as I have described the greater part of Berkshire to consist of, that I cannot but consider it as a NATIONAL DRAWBACK and LOSS. I am persuaded, a Norfolk, or Suffolk farmer, would never, in the strongest soil of this county, put more than two horses to a plough, with one man, and he would do as much work, if not more, than four horses, and two attendants now do, in many parts of Berkshire.

The introduction of the Norfolk wheel plough, which is what I strenuously recommend, on all light and loamy soils; and the adoption of the Suffolk iron swing plough, which is more applicable, and better adapted, for strong cohesive soils, would be of the greatest advantage to the Berkshire farmer. These ploughs have already been tried with the greatest success, for three years past, on His MAJESTY's Farms, in the Great Park near Windsor, where there is some of the heaviest, as well as lightest soil in this county; which they work admirably well: I therefore subjoin a sketch of these ploughs; that the mode of working them, and their powers, may be better understood and explained; to which I refer the reader. (See the latter part of the Report.)

After praising the Berkshire waggon, it may appear somewhat strange, that I object to any part of its formation; there is however, an improvement, which in my opinion might be easily effected (and in harvest time, would be a material convenience) namely, leaving the space sufficiently deep in the bed of the waggon, for the fore-wheels to lock round in the shortest curve; for, by the present construction, much time is lost, to turn at the end of the swaths; and which by the alteration I suggest, I should hope, would, in a great measure be saved, without affecting the symmetry, or strength, of its present neat form.

PREPARATION FOR CROPS.

PARTLY, from the construction of the plough, and partly, from the prevalent idea of the cultivators, that without great strength, little can be done, in most parts of the county, as I have before observed, four horses are generally put to a plough, even if the work is a second or third tilth : and on land that has lain a few years, the strength is often increased to six horses !

In the inclosed parts, very little fallowing is practised : the farmers being now in general convinced, that meliorating green crops, are more serviceable to the land, and profitable to the occupier, than the old method of letting land lie idle, choaked, and exhausted with weeds.

On the downs, one ploughing suffices for most crops ; this is however hardly ever done with less than four horses, and sometimes more !!

The rational and frugal mode of using OXEN, is but little followed in this county : indeed the greatest part of Berkshire is that kind of soil, which is rather inimical to their hoofs ; so that they cannot be recommended, except in some parts of the Vale of White Horse, and the clay lands at the northern, and southern extremities of the county.

BURN-BAKING, as I have before observed, has been too prevalent in this, as well as in the neighbouring counties. There are too many visible proofs, in the hill and down parts of Berkshire, to what beggary and poverty that practice reduces land.

Among the best farmers, the general custom is, to “ pot-dung ” for their wheat crop, and feed off their turnips with sheep ; so that each piece of land gets well manured every other year, besides occasional foldings, on the stubbles, as the course is proceeding.

The downs, from the great distance they usually are from the

homestall, have but little pot-dung bestowed on them ; all their support arises from that quiet, generous animal, the sheep, which periodically bears to its fold, the nourishing means for future crops.

Woollen rags, at about 5s. a cwt., are a species of manure, used in this county, for dressing wheat, and clover lays, and from their peculiar qualities, often produce abundant crops, upon some of the light soils.

Malt-dust is used for a barley crop, particularly on the north side of the county : and peat-ash, (one of the most essential dressings), is spread in every part, for crops of corn and hay.

The wheat sowing, is necessarily very early on the downs, and light land. Some persons put their wheat in, so soon, as the first week in August, and their turnips, in May ; but about Old Lammas, is the general time for sowing wheat, in the hill country. The Lent-corn, in the same situations, is got in, during the months of March and April, and unless the season is very backward, is completed before the middle of April, and the turnip sowing, about the middle of June. In the loamy, cohesive, and strong land, the periods of sowing differ, according to the tendency of the Soil. The general busy time in these parts for wheat sowing, appears to be, from the middle of September, to the middle of October ; and of the barley sowing, from Lady-day, to May-day.

The quantity of seed sown on a statute acre, is on an average, in most parts of the county, nearly as follows :

Wheat	-	3 Bushels.
Barley	-	4 Bushels.
Oats	-	5 $\frac{1}{2}$ Bushels.
Beans, or peas	-	3 $\frac{1}{2}$ Bushels.

OBSERVATIONS.

Persuaded as I am, that the general mode of ploughing, followed in Berkshire, is unnecessarily expensive, I cannot refrain from again urging the Agriculturist, to lay aside prejudice, and

adopt such measures, as would reduce this great expence of the arable farmer, nearly one half.

In addition to what I have already proposed, I recommend an alteration, as to the hours of working the ploughs. A horse worked, in summer, from five to eleven; and after resting the heat of the day, going again to work from three to seven, it is natural to expect, will be better able to perform his ten hours work, and return less fatigued than one constantly drawing for eight or nine hours, without being relieved. In most of the eastern counties, the ploughs work in this manner, two journeys a day, and the farmer finds his account in doing so; since it is evidently more easy for his horses, and he gets more work done, than can possibly be expected, from a like number of horses, working according to the present method, in Berkshire.

The practice of fallowing is very properly, in this county, nearly exploded. Before artificial grasses were cultivated, and the numerous substitutes for dressing, and manuring, found out, there was some plea, for letting land lie, in such an unprofitable, and slovenly state. It certainly is the best of management, to keep land repeatedly moving; provided the farmer is made to observe these essential points of husbandry,—To keep his land clean,—In good heart, and condition,—And vary his corn and green crops, so as to have never more, than two of the former, without one of the latter to follow them.

The quantity of seed sown annually in Berks, might be reduced considerably, by the general introduction of the DRILL SYSTEM. Supposing there are only 50,000 acres of wheat sown annually, and that 30,000 of it, can be put in by the drill; a number in my opinion very small, when it is considered, there is so great a proportion of light land. The saving would be, at about one bushel an acre, nearly 4000 quarters in this county alone!! A quantity sufficient to support, in bread, at least 5000 souls, is thus rescued from perishing in the earth; and from my own observation, as well as from the repeated trials made by impartial, and laudable husbandmen, who have given their attention to this mode of sowing, it appears, that independant of the GAIN

in seed, and of keeping the land clean, the drill crops are generally more productive, than those sown broad-cast. Barley, and other grains may, of course, be saved in like proportion; and when we reflect, with what difficulty, the poor labourer procures these essentials, towards the support of a life of toil, it surely is incumbent on every one, to adopt and encourage all measures, however trifling they may appear, which create a greater plenty, and which can in the least tend, to alleviate the wants, of a quiet, and honest peasantry.

In addition to the various manures, and dressings, which the generality of Berkshire farmers, (to do them justice), liberally bestow on their land, I recommend the trial of pulverized oil cake, as a manure, peculiarly well adapted for a turnip crop. In Norfolk, it has been tried with great success, and a particular account of preparing it, is inserted in Mr. Kent's Report of that county. The idea originated, I believe, with Mr. Styleman, a gentleman of considerable fortune, and a great cultivator at the West end of Norfolk; and the practice of it, is daily extending itself. The chief parts of the process consist, in breaking the oil-cake, first with cogged cylinders, and afterwards pulverizing it with plain ones, each turned by two women: Then depositing it in the same grooves with the turnip seed, by the help of the drill machine; using the bush-harrows afterwards.

COURSE OF CROPPING.

In this county, as in all others, there are many occupiers of land to be found, who not being restricted, to a liberal, and just course of cropping, unfairly run out, and impoverish their farms. The taking four crops of corn, or pulse, with only one of turnips, in the course of five years, will ultimately exhaust, and ruin the best land ; nevertheless this course is, I fear, very prevalent, in many parts of Berkshire.

The mode of cropping followed by the fair and best farmers, on the South side of the county, is divided into five shifts, thus ; first year, a crop of wheat (which has been manured for), next year, barley, then turnips fed off.—The fourth year, barley or oats, laid down with clover ; and the fifth year, clover mowed only once. After which, wheat comes round again.

On the Downs, different modes of cultivation are found. In some parts, where the black light soil prevails, very little of either wheat, barley, clover, or sainfoin are sown. The first crop is generally turnips ; the piece having previously undergone the pernicious practice of burn-baking ; which being fed off, puts the land for the present, in pretty good condition for a crop of oats, with which perennial darnel, or as the farmers call it, rye grass, is sown. The piece thus continues three or four years, on a forced system, greatly to the advantage of the tenant no doubt, but at the expence, of ruining the land for ever after, as pasture ; indeed, what else can be expected from, cutting up, and burning, not only the turf, but every germ of vegetation, nature has for ages deposited, to keep up a succession of herbage.

On the best parts of the downs, and hills, is found a sixth shift course ; viz. the first year, wheat, the second barley, third turnips, fourth oats with seeds, fifth grass, and sixth grass, second year.

This, is a fair way of tilling such kind of land, provided, the farm has a proportion of good downs, and sainfoin, to keep a large flock, otherwise it would not be enabled, to have so great a proportion, as half of this sort of land in grain.

In the Vale of White Horse, and the country adjacent, where the soil is a rich deep loam, the general practice is, to take, 1st. wheat, 2d. beans, 3d. barley, or oats with seeds, 4th. clover one year, 5th. fallow, vetches, or turnips. After which, the wheat crop comes in succession.

There is still another mode, practised in the common field parishes of this county ; where, from the mixed rights that prevail, turnip and vetch crops, cannot be well introduced. After wheat, they sow barley, then oats with seeds, 4th. clover mowed (when it becomes common), 5th. oats, or barley again, and 6th. fallow. This management, though bad, I fear cannot be amended, whilst the land lies in its present state ; and although there is a method called " hitching the fields " (a kind of agreement amongt the parishioners, to with-hold turning stock out, whilst particular crops are growing, and by which means, a few brush turnips, clover, and vetches are sown), yet its lying open, subject to commonage, is a bar to all essential improvement, and cramps the spirited farmer, who is disposed to make the most of his land, since he is subject to the caprice of individuals, who are too often deaf to reason, and absurdly say " they have their rights," and will give no other answer.

OBSERVATIQNS.

It is no trivial consideration with a farmer, when he takes a tract of land, to understand what liberty is granted him, as to cropping. That he is entitled, to an encouraging contract in this respect, (when it is considered how many losses and hazards he is subject to), every one must allow. But self-interest too often urges mankind, to break through the bounds of fair conduct ; and in agriculture we have too many instances, both on the side of landlord, and tenant, what injury may be done, by

the oppression, or fickleness, of the one, and cunning, and dishonesty, of the other.

Restrictions therefore, are necessary with both parties; but as it is impossible, the tenant can pay his rent without crops, I consider it by all means proper, that he should have liberty, to substitute one crop for another; when, from unfavourable seasons, or from misfortune, his land is put out of that fair, and regular course, which should be agreed to be the best, by himself, and landlord, in the first onset. A man constrained by strong, and particular clauses, to crop his land rigidly, to the letter of his agreement, can never avert the loss, he sees falling on him; but if he is suffered to take a meliorating crop, of that kind, which will not throw his land out of course, more than a year, I am persuaded, not only himself, but the estate, must be benefited by such indulgencee.

For example.—If a piece of land, in a district of pleasant light loam, is well manured, (which is always the case in the turnip countries), got into good condition, and at a proper time sown with turnips, which, after all the expence, and pains bestowed, do not prosper, it would bear hard on the tenant, to hold him from sowing wheat in the autumn, on that piece of land; particularly, as he could in the spring, sow clover, and thus bring his land into proper course again. Or if he is more anxious for spring feed, the same piece of ground, instead of having wheat, may be sown with vetches, and fed off time enough for him to sow his lent corn with seeds. Sometimes also, artificial grasses, either from the state of the land, or unfavourable weather, about the time of sowing them, will not take root; in such instances, it would be a great injury to a tenant, and do the land no kind of good, to keep him from taking a cross crop; he being obliged, after having such extra crop, to turnip or vetch it, previous to its being laid down.

The usual practices, followed by the best farmers on the Southern side of the county, are certainly very beneficial, and fair. A five shift course of husbandry is, without doubt, the best that can be adopted here; but I submit to their consideration, whether, the

introduction of vetches, and buck-wheat, would not improve their system, by varying the course, now and then, in order to keep the same crops, from coming too near each other. The frequent repetition of the same crop, is rejected by land, though in ever such good heart, and thus we often see, on the best of soils, weak crops, and sometimes a failure; which has no visible cause for its happening. I therefore recommend, that instead of barley after wheat, buck-wheat be sometimes taken; it is a crop neither impoverishing nor unprofitable; and after harvest, if it is got up soon, vetches may be sown on the same piece for spring feed. The land would then come in excellent condition for a turnip crop; and the barley, after such treatment, would amply repay the farmer, for the seeming loss he sustains, in the omission of his barley crop, after wheat. I call it a seeming loss, since in fact nothing is lost by adopting this change; as in an arable country, where there are good markets, and a spirit exists, for fattening cattle, and sheep, green crops are now considered, and certainly are, when all benefits are reckoned, as profitable to the Agriculturist, as any corn crops he can grow.

I am persuaded, a seven shift course, would be more productive on the light, and shallow Soils, of Berkshire, where the land is not in common field, than their present six-shift course; particularly where a farm is cramped for want of downs or sainfoin. The rotation of crops I should propose, in these situations, would be nearly as follows. 1st. Wheat, 2d. vetches, 3d. barley, 4th. buck-wheat, 5th. turnips, 6th. barley, 7th. clover. This succession, considering the buck-wheat, as it always should be, a neutral crop, is certainly the best system of husbandry, that can be followed on light land. But, independant of this, it is proved by experience, in the turnip countries, that the more distant that crop is kept, not only from repetition, but from the clovers, the greater likelihood there is, for its success: and when it is considered what an uncertain and expensive crop, turnips are, to obtain in perfection, any observation, that tends to remedy the hazards attending it, deserves at least some little consideration.

There is also another advantage in this mode of cropping, that

strikes me as an improvement, namely,—By having clover lay only one year. We generally see (except on deep rich land) the second year's clover lays, weak and sickly ; and as another green crop more likely to be vigorous, is substituted in the place, of the second year's lay : I believe that more stock could be kept on light land, by thus introducing the vetches, than can now be done, from the present system of six shifts.

On those open parts of the downs, where the sandy soil predominates, the sowing of rye, to be fed off (where wheat will not succeed) would, in my opinion, insure much better crops of turnips, than what are generally seen on this bleak part of the county. The advantages resulting from this method, would be, Increase of food,—An increase of stock,—And consequently an increase of manure ; by dint of which only, the farmer depends on a crop of grain here. His expence and trouble would be inconsiderable, in adopting this practice ; inasmuch, as the land would only be broke up in the autumn, instead of the spring ; and in return for which, he gets much sheep-feed, and dresses the land well for that crop, which, above all others, ought to have plenty of manure buried with the seed.

The strong rich loamy Soil, in the Vale of White Horse, has long been celebrated for its fecundity ; and unlike most other countries, where nature has been bountiful, the inhabitants are, in general, active and industrious. They, however, still incline, in those parishes, that have of late been inclosed, to the old common field mode, of taking three crops in succession (for I cannot agree with them, that beans should be considered a neutral crop). Their land is certainly extremely good, and would not be affected by a little deviation, from the line of rectitude ; but a continual round of corn crops, sometimes four, in five years, must deprive the land of that spirit, and vegetative quality, which a little more variety in change of crops, would render permanently productive.

The method followed in the Isle of Sheppy, and the Flegg and Blofield hundreds of Norfolk, is very suitable to this part of Berkshire ; and in the latter place, is a copy of that high state of agriculture, practised in the Austrian Netherlands, which has

ever been considered, as one of the first schools for agriculture; and simply consists of alternate crops, for man and beast, of an exhausting, and meliorating quality. Thus,

1st.	-	-	Wheat.
2d.	-	-	Turnips.
3d.	-	-	Barley.
4th.	-	-	Clover.

As an improvement to this short system, vetches may be harrowed in the wheat stubbles, directly after harvest, for spring feed; and turnips thrown on the barley stubbles, where the land is not so tender, as to risk an injury to the grasses, by the treading of cattle. In short, wherever this last method can be done, it is one of the best modes of husbandry, now in practice; because, the turnips often go twice as far as they would, if fed on the land where they grow; and by being strewed thinly before cattle on the clover lay, will often add, by the manure the cattle bestow on it, more than an additional load of hay to an acre, and leave the land in a most capital state, for wheat the ensuing autumn. I should add, that my recommendation, of having the turnips thinly strewed, is to avoid the land being too much trodden, in particular spots, at one time: but the same piece should be strewed over, two or three times, to give it an effectual dressing.

There are, no doubt, many situations, where feeding off turnips, or suffering cattle to go on barley stubbles, would in their present state, be utter ruin to the stock, and injure the land very much. If it is impossible, by draining, to render such land quite sound; still I am of opinion, that by keeping in some measure to the spirit of the foregoing rotation of crops, and planting cabbages, or potatoes in lieu of turnips, the farmer would find a greater advantage, than by suffering his land to lie fallow; which causes, in the following summer, a sharp contest between him and the weeds that have risen up in evidence, against his idleness, or mismanagement.

I have observed in Leicestershire, and other parts of England, a mode of feeding cattle, on ground that is too wet, and tender to

For remarks, &c.

be turned upon, that I think deserves attention, in the Whitehorse. If oxen are fatted off, a slight shed erected of offal stuff and slabs, is fixed on a dry part, on the North side of the piece intended to be fed off; and a temporary yard, in : the expence of the whole, not amounting to forty shillings.

In this shed, the cattle are plentifully supplied by their keeper, who draws, and gives them their food. The manure is left on the spot, and ready to carry out for the succeeding Lent. And the objection, that the land is robbed by drawing the crop, is overcome.

Sheep are in like manner fatted off, only the fold is made larger, in order that it may be divided into two ; so that during three or four nights, they may lay on fresh litter.

Perhaps even this method, will not be thought feasible in part of the district, I am speaking of; but I mention it, as a matter, that may probably lead to some improvement in countries, where it is at present supposed, sheep nor cattle can be winter-fattened. At all events, cabbage, potatoes, and vetches, must be more profitable to the farmer, and less injurious to the land, than the obsolete and expensive mode of fatting.

HARVESTING.

From the nature of the Soil, it is to be expected, the harvest is forward in most parts of Berkshire ; which is generally the case.

The usual practice of the county, is, to let the harvest work by the great ; and many of the women are employed in reaping, as well as the other labour, necessary for getting in crops.

About Lammas, the reaping of wheat commences ; and is cut from 5s. to 9s. per acre, according to the bulk of the crop. On the hills, it seldom exceeds 6s. as the crops in those parts, generally run light.

Barley and oats, are mowed from one shilling and three pence to one shilling and sixpence per acre ; but more is given, if the labourer gets the swath into cock ; which is here often undertaken by him.

One shilling and sixpence an acre is given, besides small beer, for mowing hay. Sometimes more, if the burthen of grass is heavy.

The price for cutting beans, is generally, about the same as reaping wheat : and peas are usually cut at sixteenpence per acre.

Turnips are twice hoed, from 6s. to 9s. per acre ; which, although a high price, are not so well done as they ought to be. In Norfolk they are twice hoed, in a capital manner, at 6s. per acre.

The corn is carried with great spirit, from the field to the homestall ; and rick staddles are used in all parts of the county. Nor should the neatness of making their ricks be omitted, as they certainly are formed with much judgment and symmetry.

OBSERVATIONS.

At this joyous season of the year, it is certainly proper, that every rural inhabitant should not only have a proportionate

increase of comfort, but likewise, have an opportunity given him, by industrious exertions, to lay up, like the ant, some little resource, against the pinching blasts of winter.

Counties, in which manufactoryes are established, have, in harvest time, advantages, which in many parts of the kingdom are embraced, and thought a great benefit to the Agriculturist. He is enabled by the additional aid from the towns, to get his corn housed very quick; and as the usual custom is for the labourers, in such instances, to hire themselves out for the harvest, and to board in the farm house, during that time, the farmer has the power, of directing his whole force to particular spots; and often by these means, prevents much damage and disappointment, particularly in a catching year, as it is termed.

Although, many good effects certainly arise from this mode, yet it is local, and has some material objections; since the wife and children, are left at home,—are uninterested in getting in the crops;—and whilst the man is living, in a degree of festivity beyond his usual style, his family are idle at home, experiencing hunger and want, during the whole time of reaping and mowing corn.

Another objection may be fairly stated to this mode, viz. that late turnips sometimes require hoeing, at a time when harvest is begun; and as all hands are engaged, it will often happen, that great loss is sustained, in that most valuable crop being neglected.

Nor do I conceive, there can be by such practice, those incentives to industry, which are in view when a labourer works by the great.

In those counties therefore, like Berkshire, where the reaping, mowing, &c. is let by the acre, we shall find the poor most comfortable, and industrious. Instead of the wife and children idling their time, in gleanings a little loose corn, we see them busily employed with the father in reaping; or, if not strong enough for that, in assisting in other ways, the hands that nursed and brought them up: thus forming a little community, that are a comfort to each other, and are rewarded in proportion to their zeal and industry.

I need not, after what I have observed, recommend the Berkshire farmer to continue in the same mode, as to getting in his harvest; for although in manufacturing counties, where very large farms exist, the method I first stated, may be most beneficial to the farmer, yet, I am convinced that every mode which calls forth the industry of the labouring hand, is not only adding comfort, to that most useful class of people, but is certainly the soundest policy; considering it in a national point of view.

MARKETS AND FAIRS.

BERKSHIRE, with respect to situation of markets, is peculiarly fortunate. They are distributed so well, that a distance of ten miles to a market, is difficult to be found.

Newbury, Reading, Abingdon; Wallingford, and Windsor, have all the advantage of water-carriage to London, and the interior parts of the kingdom. The two former send a prodigious quantity of flour to London; and the others barley and malt, to a considerable amount.

Ilsley has also, of late, become a sheep market, of the first importance, not only to Berkshire, but its neighbouring counties. Not less than 20,000 sheep have sometimes been sold in one market day; and it is computed, that the annual average is not under 250,000, comprising lambs, tags, wethers, and ewes; but they are chiefly lean sheep.

Newbury has, time out of mind, been justly considered a most excellent corn market; and still retains some customs, that would be of great use were they observed, in all other markets. Here the grain is pitched in open market, is ingenuously offered to the public, in small, as well as large quantities: thus defeating, as much as possible, the artifices of monopolizers; and holding out to the industrious lowly hand, the chief nourisher of his existence, at a fair market price.

Another good custom is also observed here; that the farmer, let him sell much, or little, has his money paid on delivery of the article, verifying the old observation on Newbury market, that

“ The farmer may take back
“ His money in his sack.”

There are several large fairs held in this county for horses, neat cattle, and sheep. Faringdon and Abingdon have great horse fairs; and Lambourn, and some other towns, have a great mart for in-calf heifers, colts, &c.

OBSERVATIONS.

The preceding advantages of markets, &c. are strikingly obvious; and though the benefits of such excellent navigation cannot be obtained, where nature with-holds them, yet the laudable custom that still exists at Newbury, of a pitched market, is so conducive to the comfort of the lower classes of mankind, that it is to be wished, it may be long continued; and much to be lamented, that monopolizers in most other parts of the kingdom, have contrived to draw, from this most valuable class, a profit of at least 20 per cent. to themselves, without any benefit resulting from it, even to the farmers.

LABOURERS, POOR-RATES, &c.

THE husbandmen of this county, are well-disposed, tractable, and honest; and, when their powers are called forth by fair encouragement, skilful, and industrious.

Their daily pay, in the winter, is from one shilling to one shilling and three-pence. They come to work about seven, and stay till five; and are allowed an hour in the day for meals.

In the summer, their labour commences at six, and ends at six. They are then allowed two hours for meals; and the pay is increased to one shilling and two pence, and more, according to the goodness of the hand, up to one shilling and sixpence.

In the neighbourhood of towns, somewhat more is given; particularly at the Eastern side of the county; but the general average of labourers' wages through Berkshire, may be estimated at about six shillings and sixpence a week, in winter, and eight shillings in summer.

Such work as is done by the great, and which I have not before noticed, may, (taking the average of the county) be stated as follows:

		s. d.
Threshing	Wheat -	2 6 per quarter.
	Barley -	1 2
	Oats -	1 0
	Beans and pease	1 0
	Clover seed	5 0 a bushel.
Ditching and banking }	A six foot ditch at top, three at bottom, and four deep. -	2 6 per pole, of 18 feet.

Cut, andplash, and
scour up a ditch and
bank - o 6 per pole.

Give no faggots, but
allow a sixth of the
earnings for it.

Under ditching, three
feet deep - o 4 per rod.

The wages of yearly servants are, of course, different, according to the abilities of the person employed. A carter, however, has never more than £10 a year, and is reduced from that, down to £5; which is the lowest wages, I understand, a man of that occupation takes. Stout plough-boys have £2 a year, and smaller ones £1. 10 s. Shepherds have ten guineas a year given them, and the run of two sheep.

Some few farmers in this county, pay their labourers in kind; viz. with wheat and barley, when they choose to take it;—a practice highly laudable, and deserving particular attention.

The Poors Rate is very moderate, in most parts of the county: not above 2s. 6d. in the pound, upon an average; except at Newbury, where it is now so high as nine shillings in the pound, upon the rack rent. But this, may in some measure, be accounted for, by the failure of the manufactory of broad cloth, which is now at a very low ebb; and, as the parish is small, and the population great, unless some new branch of trade is struck out, for the employment of the poor, the land-owners in this parish, will lose half the income of their property, by the decline of the manufactory.

OBSERVATIONS.

There is no subject, which deserves the serious consideration of all persons concerned in landed property, more, than the State of our Peasantry.—At present, they are too much left to the management and controul of the farmer, whose situation being only temporary, is too often induced to consider them merely as in-

struments, subservient to his interest, so that the poor man's spirit is depressed, as he sees himself abandoned by the landlord, who, having a permanent interest in the country, is, and ought to be, his Natural Protector.

On the other hand, I am aware, that the labourers and hand-craft-men in manufacturing counties, or where navigations are carrying on, are often turbulent, and dissatisfied, without reason, and are spoiled as husbandmen, by the exorbitant wages they get from local circumstances. It is not the cause and situation of such people, I am anxious to serve, but the humble, hard-working cottager, whose attachments to his family, and domestic wants, are as strong and urgent, as those whose situation and education, are superior; whose steadiness, and firmness, in times of sedition, make him a valuable subject to the state: and though, with scanty allowance, he works through a life of toil, and labour, does not repine.

It is to such men, I wish the attention of country gentlemen to be more particularly directed. The monopoly of large farms, has, no doubt, of late years increased the number of this class, of our fellow-subjects:—to relieve their reasonable wants, and encourage that spirit of industry, at present so much reduced, are beneficent and laudable acts; and such as carry in their execution, that satisfaction, which is superior to all others,—“The pleasure of doing good.”

The essential measures, that would tend to make the poor industrious man happy, are, in my opinion, very few; and such as might be extended, and adopted, without aggrieving any one.

The old custom, of paying the labourer, as much of his wages in kind, as he chooses, is certainly the first step of comfort, and saving; which he might attain, without any loss to his employer.

To set him all his labour, as much as possible, by the great, is the next:—this calls forth his powers; and unrestrained industry, will have its reward in comfort.

And above all, to let every industrious, poor man, have a sufficiency of land, not only to raise vegetables, but to keep a cow;

by that means, enabling him, and his family, to provide a great part of their necessary sustenance, from their own little community.

Many other benefits may be given the poor man, without affecting any one's real interest, which I shall more particularly descant upon, in my General Observations;—concluding here, with the hope, that I shall have credit, for, at least, a good intention: My wishes extend no farther, than to see this useful, and quiet set of our countrymen, possess the necessary comforts of life, and that every gentleman of landed property, would remember the words of the celebrated poet,—

“ Be mindful of the rough, laborious hand,
“ That sinks you soft, in elegance and ease.”

THOMSON.

S T O C K , &c.

BERKSHIRE has, and ever must have, from the nature of the Soil, a great quantity of sheep kept upon it. Its present breed are certainly not only a very useful, but handsome stock, and are in great reputation in the neighbouring counties. They are well adapted for folding; being strong and agile, they travel long ranges during the day, and from their size and weight, are good folding sheep at night. Like all other parts of England, a spirit of crossing the breed is diffusing itself. South Downs, and Dorsets, are introduced in many parts; and it is likely, may improve the fleece very much.

Great numbers are now annually drawn out of the flocks, and fattened off, by the introduction of the turnip system; and a still greater number are bought at Ilsley, to fat in the counties nearer London.

A fleece of 4 lbs. is reckoned a good produce; the general average of the county will not, however, be so high. Eight sheep to a tod of 28 lbs. is about the usual allowance: but those which have a cross of the South Downs, will require, not less than 10; but of course, the wool is more valuable.

Various are the sizes, and weights, of the Berkshire sheep, so much depending on the breed and keep. A full sized Berkshire sheep, however, thirty months old, when fat, weighs seldom less than 20 lbs. a quarter, and are sometimes increased to 25 lbs. or 30 lbs.

The neat cattle, fattened off in this county, are generally the Herefordshire, Shropshire; Glamorganshire, and other parts of South Wales, bought in at the spring, and fall. The system of fattening with turnips, is not however, much known, and in the grazing part of the White Horse Vale, where a great quantity of beasts are annually stall-fed; they are generally fattened with hay, bean, and barley meal, oil-cake. &c. Linseed, both dry and

steeped, is given by some graziers, and found to answer exceedingly well ; but this practice, though a good one, is not common.

The cows most esteemed in this county, are those of the North country breed ; they are excellent milkers, and well adapted for the grass land of the Vale, where the dairy farms are managed, with much skill, and judgment. The dairymen keep up the succession, partly by rearing, and partly by buying heifers in calf, at Lambourn, and other fairs in the county.

The Berkshir: farmer considers his profits from horses, no inconsiderable part of his farming, and this, in some degree, accounts for the unnecessary number of horses, we see kept in every part of the county. Some breed their own stock, and others buy in suckers, which they put to work very early ; and after using them for two or three years, sell off, to the brewers in London, and the stage waggons, at such high prices, as to make eight, or ten pounds per annum of each horse ; considering his work equal to the expence of his keep.

The quantity of swine fatted in Berkshire, is certainly very great. In the small town of Faringdon only, 4000 are slaughtered for the London, and Oxford markets, between the beginning of November, and the beginning of April. This however, is in a part of the county, where the dairy farms are situated ; but nevertheless, when it is considered how many store pigs, are sent annually to the distillers and starch-makers, in the vicinity of London, Berkshire receives no inconsiderable return, from this profitable kind of stock.

At the East end of the county, the poultry becomes very profitable from its vicinity to London. A great number of hucksters are constantly employed, in purchasing them, and the number weekly sent away is prodigious. At the Northern, and Western sides, the farms running large, these useful and necessary articles, which the little farm rears up, are overlooked, or rejected, and perhaps will account for the dearness of this kind of provision.

OBSERVATIONS.

The keeping up the breed of sheep, has in all ages been a subject deemed of the utmost importance; whether of late years the number has increased, is with me a matter of doubt: though from the increased number, that is now brought to markets, and fairs, beyond that of former times, it is natural to conclude this part of the national produce is augmented.

That "every Soil has its own stock," is an accurate observation of a very judicious and sensible writer on agriculture.* Improvements may, no doubt, be effected in the breed, of almost all kinds of sheep; but crosses, where two very opposite breeds are to be combined, can never, in my opinion, be advantageous to either.

A Berkshire sheep, will certainly be improved in its wool, by the cross of a South Down; but perhaps it will not be so good a folding sheep. In short, it appears to me, most rational, and most beneficial, to every sheep county, to strive to the utmost to improve its native breed;—foregoing the little advantage that may be derived from the improved quality of the wool, for the more permanent and solid one, of having a thrifty breed, congenial with the soil.

I have already remarked, the national loss that occurs in Berkshire, from the keeping so many unnecessary horses; and therefore, subjoin a calculation, founded, I trust, on a fair and moderate basis, as to the number of horses kept; with a view of proving the great benefits, that might arise in this district only, from a general spirit of economic reform, in tilling.

Considering there are only 240,000 acres of arable in Berkshire, and allowing 5 horses to each 100 acres, it may be estimated there are 12,000 horses kept in the county, for the purposes of agriculture. One-third of these, I am persuaded, might be saved by the introduction of the Norfolk, and Suffolk ploughs; and,

* Mr. Marshall.

whatever the farmer may now get, by bartering in horses, would be amply compensated for, in the saving of keep by such reduction; independent of farriers' expences, and chances, to which every dealer in horses is subject.

In a national point of view, the saving to the state would be immense.

4000 horses employed in agriculture, consume, (allowing them only 25 bushels a year) 100,000 bushels.*

Which, allowing 50 bushels to be the average produce of an acre, occupies 2000 acres for the growth of oats only. Add to this at least, 1500 acres for the growth of grass and hay; and the total quantity of land necessary for supporting 4000 horses, may be moderately estimated at 3500 acres.

Of these 3500 acres, it may be reasonably presumed, 1000 acres might be always in wheat, and 1000 acres in barley. On this low scale, I will ground my calculation, of the advantages that would result to the community.

1000 acres of wheat, at 25 bushels per acre, which, I consider a fair average crop, produces 25,000 bushels, and from the observation, and investigation of several ingenious men, it has been ascertained, that a man, his wife, and four children, will not consume more, than thirty bushels of wheat during the year: BREAD for the subsistence of 5000 souls, would thus arise from land, now devoted to unnecessary purposes.

Nor is the barley crop, a less object of material concern, particularly as the revenue depends so greatly on it. An acre of land, cropped with barley, when considered in all its stages, produces annually to the state more than six times its yearly value; and, burthened as this necessary article is, any measure that points to an increase of it, deserves attention, and will certainly have the blessings of the poor labouring man; who at present,

* A horse kept in the stable, for coach or saddle, eats, on a moderate calculation, 50 bushels of oats per annum, besides hay; and may thus be considered to consume the produce of, at least, three acres of land.

from its exorbitant price, is debarred the comfort he had, of making himself a little beer.

The method of stall-feeding cattle is exceedingly stood in this county ; and the plan of forming the stalls to give each beast a separate walk, is worthy of being copied in other counties, where winter fattening is practised.

COMMON FIELDS, &c.

A moiety, at least, of the arable land in Berkshire, is still lying in common fields; and though it is not divided into such very small parcels, as in some other counties, the farmer labours under all the inconvenience of commonable land; and by that, is withheld, from improving or treating his land, so, as to return the produce which it would do, if entire, and under a good course of husbandry.

OBSERVATIONS.

The advantage resulting from inclosing, or at least severalling common fields, is so very obvious, and has of late years, proved so beneficial, that it requires no observation from me, to record its good effects. Some sound, and well-digested measures are, however, much wanting, to accelerate this great benefit, to the community. The difficulty, and expence, of procuring legal authority to effect this desirable improvement, act at present, very materially, against its extension.

On this subject much has been said, and many plans and observations given, some of which appear very feasible and pertinent: but as another great interest, besides the landlords, is interwoven with the improvements to be effected, I mean the tithe owners; I conceive the measure a very important, and complicated one, and well worthy the profound consideration, of the legislature; who are more likely, than any individual, to form and effect, by their wise deliberations, the best and most ready means for effecting so desirable a benefit to society.

With respect to Tithes. The practice generally followed, in the present method of inclosing, of "allotting land in lieu of them," is certainly a good one; and preferable, in my opinion, to a corn rent, or any mode which obliges the clergyman, to de-

For remarks, &c.

pend on the industry of his parishioners for his income; the only objection that can be raised, is, that the clergyman is forced, to become his own farmer, for subsistence. By the same parity of reasoning, it should be remarked, a gentleman of large landed property, may also be obliged to cultivate his estate; circumstances, not very likely to happen, in this happy and wealthy kingdom.

In short, any measure, that tends to an alteration, in the system of paying tithes in kind, must be productive of improvement to agriculture; particularly when it is reflected, that often they are the cause of dissension, and acrimony, between the clergyman, and his parishioners; for, however just and reasonable his demands may be, if an advance takes place, a difference is often created, and cherished by them, subversive of good order, and certainly very detrimental to the peace and happiness of the state.

**WATER MEADOW. PEAT-LAND.
SAIN-FOIN.**

The tract of meadows, contiguous to the river Kennet, from Hungerford in the West, to Reading, East, are all of them watered in a masterly style; and the burthens of hay, cut from them, independent of the very early feed, evince the great improvement that arises, from this simple method, of creating fermentation in a soil, which, in many places, is sullen and torpid.

Part of this tract of meadow, however, has for its surface, a gravelly soil; which, of all others, is the best adapted for water meadows. The other part consists of peat; a soil, though known by name in most counties, is not elsewhere of that peculiar and excellent quality, as in the neighbourhood of Newbury, and other parts of Berkshire, towards Oxford.

The watered meadows, on the gravelly land, being in high estimation, of course let at a great rent. Those which have peat under the surface, are not reckoned so valuable to a tenant; but to a landlord, they have of late, been invaluable. I was informed, by a gentleman, that has concerns in this peat country, that he last year sold the peat, on one acre of land, for £ 300 !!! where the purchaser was limited,

First, To cut no deeper than six feet.

Secondly, To cut and clear off the whole in the course of the year.

And, lastly, he was to pare off the sward, that was on the acre at the time of agreement, and relay it, in a proper manner, on the surface, after he had got out the peat; in order that it might, when returned to the landlord, be in a state for meadow land again.

The reader, unacquainted with the properties of peat, may,

with reason, exclaim, For what purposes, can this earth be applied, to make it so very valuable?

First—It is, like all other putrid vegetables, an excellent fuel.

Secondly—It has a property, that the peat of no other country has, in the virtues of its ashes; which in Berkshire, and other parts, are used with great success, in dressing young crops, whether of wheat, barley, oats, or turnips.

It is also an excellent improver of grass lands, particularly clover lays, and sainfoin; which shew to an inch where the peat-ash has been bestowed on them. The quantity necessary to dress an acre, is reckoned from 15 to 25 bushels, according to the condition of the land, and which may be bought on the spot, from 2d. to 4d. a bushel, according to the strength and goodness of the ash.

This cheap and striking improvement, has not been known in Berkshire more than seventy or eighty years. For a long time, like all other new methods, it had to combat the prejudices and obstinacy of many. But it seems now universally approved, and adopted by every cultivator, who lives within a reasonable distance, to procure the same.

There is also another obvious improvement, which, I understand, was introduced many years since into Berkshire; but not much attended to, till of late years; viz. the cultivation of sainfoin.

On the downs, and hilly land, where the predominant strata is chalk, and the surface not naturally inclined to grass, this most excellent substitute for meadows, flourishes with vigour. The aid this valuable artificial grass gives the farmer, is abundant; particularly for his flock, that chief support of his arable.

He also gets large crops of hay, from land, which, in its natural state, was almost barren; and proves the good effects that may arise, from adapting productions congenial with the soil.

OBSERVATIONS.

Watering, and flooding meadows, are so peculiarly well understood, and practised in Wiltshire, and Dorsetshire, that I con-

clude the Reports on those counties will describe, most fully, the modes followed there; from which the Berkshire farmer may, I am persuaded, receive some valuable hints, as yet unknown to him, with respect to this artificial and most valuable kind of land.

The hay, cut from these meadows, although of a coarse nature, is very juicy, and particularly well suited for milch cows, or ewes, after yeaning: and as the grass is so much earlier on these, than on the natural meadows, too much spirit cannot be excited to render every tract of land, that is capable of being watered, effectually so.

This excellent practice is, I believe, confined chiefly to the West of England. We do indeed, see in some local spots, in the Midland, and Northern parts of the kingdom, a little of it done; but it is not arrived to any degree of perfection, and has to encounter, like all other improvements, the prejudices of provincial custom.

The benefits produced from the peat, I have already described; and, as it is to be procured at a very moderate expence, it is unpardonable in any cultivator, to omit using a dressing, at once so beneficial, and cheap.

Too much cannot be said, on the advantages of sainfoin, on the chalky, and dry hard soils, where no other kind of artificial grasses will prosper. It succeeds most luxuriantly, where there is a hard stratum of soil, near the surface, sufficient to resist the penetration of the root, which will otherwise, in better and deeper land, strike to an amazing depth, and exhaust its strength unprofitably, beneath the surface.

W O O D S.

The South, and East sides of Berkshire, have a large proportion of wood land appertaining to them: and, as the parochial taxes are generally very light, on this part of landed property, and the demand for faggot, and hurdle wood, very great, they pay the landlord, in general, much better than his cultivated land.

The predominant wood in the county, is hazle: sometimes, however, it is mixed with ash, oak, beech, willow, and alder. There are also, some few beech woods to be found entire; which, when in a proper course of falling, are certainly a very productive wood, particularly as they may be planted on chalk, or rocky hills, where there is but little surface, and where other wood does not prosper.

Hazle-wood, in a country where great quantities of hurdles are wanting, is of course very profitable. In a good soil, it is cut from seven to ten years' growth; and will fetch, from ten to fifteen pounds an acre. In other places, it must stand twelve, or fourteen years, to be worth so much.

The chief purposes, to which this wood is applied, is making hurdles, faggots, hoops, and bundles of stakes.

Close hurdles are from six shillings to nine shillings a dozen.

Bundles of stakes, seven pence each.

Hoops, 3 s. 6 d. a bundle of 60 hoops.

The beech woods in this county are exceedingly well managed, by continually clearing, (which they call *drawing out*,) the beech stems, from eight, down to three or four inches girt, where they stand too thick, or appear unthrifty and dead. The best of this stuff is sold to coachmakers, wheelwrights, farmers, &c. at 7 d. per foot, for making and repairing carriages, and agricultural implements; the other is generally cut up into billets, and faggots, for the bakers of the country; and a great quantity is

also sent down to London, for the bakers there, as well as for packing in the holds of ships. The woodman marks the billets, according to their size, with one, two, or three notches, which are considered, as so many farthings-worth, when the billets are sold ; and by this means, he is enabled, not only to ascertain the value of the wood cut up, but pays his workmen accordingly, at the rate of sixpence, for 255 notches : which is construed a load.

Those who take good care of their wood lands, permit their labourers, during the winter months, to take up the old roots, from which no heir or teller is rising ; on condition that the workmen plant new sets, in a proper manner ; and in case they do not strike the first year, are to replant them the next winter. By this excellent method, a constant succession is kept up, and is a plan worthy of adoption in all beech wood counties.

The scrubby stuff, is often burnt into charcoal, which pays extremely well, from its vicinity to so good a market, as London.

Ash, withe, and birch wood, are also very productive, and valuable, for hoop stuff, which is sent down the Thames, in great quantities. Instances have been known, of an acre of withe and ash, in an aquatic situation, at seven years' growth, selling for twenty-five pounds.

Very little timber, is of course, encouraged to grow in these woods, as their shade, and roots, would be detrimental to the underwood. But, in many parts of the county, there is a great quantity of timber standing ; particularly at the Eastern extremity, and the parts adjacent to the rivers Thames, and Kennet. The prices vary, in different parts, according to its vicinity to water carriage, &c.

£. s. d. £. s. d.

From 3 0 0 to 5 0 0 per load, for Oak.

2 5 0 to 3 13 6 ————— for Ash.

1 15 0 to 2 12 6 ————— for Elm.

1 10 0 to 2 2 0 ————— for Beech.

OBSERVATIONS.

The produce of wood land, in this county, is so very valuable, that I will take the liberty of subjoining, without apology, some few hints, as to the mode of treating it ; which, I trust, may be useful to those, who do not, at present, give that attention to this part of their estate, which it deserves.

If there be any timber in the wood, the unthrifty, and stunted trees should first be marked ; reserving all healthy, and young trees, and saplings, for a succession ; and such timber, so marked, should be fallen with the underwood.

The underwood should be cut, as close as possible to the stool, and before the sap is in motion ; and particular care should be taken, that the stub, from which the pole is cut, is not left jagged, and uneven, but smooth, and pointed : otherwise, the dews and rains deposit a moisture in the hollow parts, which will ultimately destroy the stub, by checking its vegetative quality.

Another material thing, in falling timber and underwood is, to clear away the stuff fallen, before the young shoots begin to spring from their stools ; which, if checked, and bruised in their infancy, is a great injury to the next crop.

Particular attention should also be given to the fences round the woods ; which should be made substantial, directly as the stuff is cleared off the ground ; otherwise, cattle and other stock, will get in, and destroy the young shoots, so as to commit irreparable injury to the succession.

The ash, withe, and birch plantations, paying so remarkably well, are an object, which I conceive worthy of great consideration. An experiment, made by a Kentish farmer, on an ash plantation, has succeeded so well, that I recommend every person having this kind of underwood, to make some trial like it ; conceiving many substitutes may be found out, in lieu of the hop binds which he used.

Having a small shaw, or wood of ash, that was planted in beds, and having a great quantity of hop binds, which he could not make serviceable in his farm yard ; a thought struck him, that

by laying them on his ash beds, he could do no harm, and it might tend to smother, the weeds and rubbish, which grew up amongst the stems. He therefore, covered every other bed with the binds, when the whole plantation was three years old.—I saw this shaw, when it was five years old, and the hop binds were then, in a perfect state, and no weeds appearing. The wood was full six foot higher, on those beds where the binds were laid, than on the others ; and the farmer supposed it would be better stuff, and more fit to cut, at seven years' growth, for hop poles, than the other beds would be, at ten years.

This excess of growth, evidently arose, from the suppression of the long weeds and grass, whose exhausting qualities, were destroyed, and the Soil so much the more strengthened : and as ash, withe, and birch, draw their support more superficially, than most other woods, any method, that keeps this kind of wood land free from weeds, must greatly enhance the profits resulting from it, by bringing its crops in quicker succession.

In some situations, at the East end of the county, I was sorry to observe, the same shameful abuse of shredding and lopping of trees in the hedge-rows, as is practised in the vicinity of London. The unsightly appearance ; the injury which the tree sustains ; and the imposition of the person, who so shamefully perverts the good intention of his landlord, I hope, will soon remedy this growing evil ; which has, within these few years, greatly extended itself.—In short, it is a practice, that if not timely checked, will ultimately destroy all hedge-row timber, which is so much esteemed in our dock-yards, for particular purposes in ship building. It is the farmer's interest, to make every tree a pollard, and therefore, if he is covetous, and is permitted (which is too much the case) to prune or lop his landlord's trees, under the mistaken notion, that it improves their growth, he takes care to strip them completely to the leading bough, which is likely, by every wind, to be broke off ; and then the tree is to be considered a pollard. And he often, without hesitation, takes off the head at the same time he mangles the stem.

I mean not to involve the respectable yeomanry, in this charge;

who, far from such paltry conduct in many situations, cherish, and encourage all the timber, in their power, to grow up for their landlord's benefit. The depredations I mention, are now so visible, and in so many counties, that the practice speaks for itself, and will, I hope, awaken gentlemen of landed estates, to attend to this part of their property, on which so much national dependence is placed.—Considering this,—I earnestly recommend to every person, who has it in his power, to plant all nooks, corners of fields, pits, &c. with oak, and other forest trees; and, also, whenever any new fence is made, to introduce, at every twenty yards, a healthy oak sapling; which may also be done on old fences, where no trees are at present standing.

On the downs, and open part of the country, large clumps and belts of plantations would not only contribute to an increase of timber hereafter, but add beauty and magnificence; and likewise tend to improve the land of that part of the county, which is now bleak, barren, and uncomfortable.*

Alarms, as to the growing scarcity of timber in the kingdom have been often given, and, I fear, not without just cause. It should be considered, that timber is not quickly raised, and it consequently requires timely interference.

Planting is therefore, an obligation due to posterity, which, I trust, the patriotic and laudable spirit of improvement, which exists in this kingdom, will attend to, and effect, in an eminent degree, for the future wealth and defence of our country.

* In these parts, the poorer class of people, are much distressed for fuel. I therefore wish to recommend, the planting of furze in all rough uncultivated spots. And, indeed, if some of the arable lands were planted with it, not only the poor would be benefited, but the farmer, I am convinced, would also find great advantages in doing so.

WASTE-LANDS.

The waste lands of Berkshire are very extensive, and occupy a great proportion of the county. The Forest of Windsor, Maidenhead Thicket, Tylehurst Heath, Wickham Heath, and the numerous commons that are to be found in all directions, contain, without exaggeration, at least 40,000 acres.

In their present wild and uncultivated state, little or nothing is returned by them to the community : except some deer, in the Royal Forest, we generally see on all the commons and waste lands, a number of miserable cattle, sheep, and horses, which are a disgrace to their respective breeds, and the cause of many distempers, which I am persuaded, have their origin, from the animals, who are doomed to the impoverishing subsistence, of grazing on them.

OBSERVATIONS.

The waste lands, and commons of this kingdom, have, for centuries past been the theme of many publications and a subject, on which many speculative thoughts have been given. The plans proposed for their improvement, have been various, but they have all agreed, in the propriety of their cultivation ; and complained of the loss, the nation sustains, by their present neglected state.

At this time, when agriculture is so highly patronized, and encouraged, it may be hoped some effectual plans may be established, to polish this rough jewel, which lies disregarded, and unproductive in all parts of this industrious island.

To apportion the waste lands and commons, is certainly an arduous and difficult task. We often find the possessors of large property, as discontented and averse to any step, that leads towards bringing this dormant treasure to the community, as the low

indigent man, who is interested in no other estate, and has consequently more reason, to be tenacious of those little common rights, vested in him.

Yet, though the subject is complicated, the advantages to be derived, are so inestimable to the state, and to the individual, that, I trust, the wisdom of Parliament will think fit, to consider of, and establish some well-digested plans, to rescue this long neglected part of the kingdom, from the disgraceful situation, it at present exhibits.

Liberality towards the cottager, in allotting him a full allowance, for his few prescriptive rights, would, I am convinced, tend materially, to prevent his opposition; which has at all times been considered, the most insurmountable barrier, to the improvement of wastes. The gentleman of landed property, if he duly weighs his interest, and sums up the advantages he must derive, from an increase of produce, and population; cannot surely hesitate a moment, in giving up a greater proportion of this uncultivated land (from which he receives no benefit), than the law, at present, obliges him, when he has the pleasing prospect in view, of not only increasing his own property, but of seeing a creation of comfort, population, and industry, arise to the state, from a spot before unproductive, and unsightly to his residence.

In a national point of view, it matters not, by whom the land is cultivated, so as the produce is brought to the community. Following that idea, I will subjoin a comparative statement of the present produce of the waste, and commons, with what it would be, after having been inclosed a few years.

The 40,000 acres of waste, in Berks, in its present state, yields hardly any thing to the community: the miserable keep, a horse, cow, or sheep, gets on most parts of it, in no direct way returns one penny to the state: but, that my calculation may be deprived of any partiality, I will suppose, each acre produces, by some means or other, to the community, an annual produce of five shillings; the amount on the whole will therefore be £ 10,000.

If the said 40,000 acres were inclosed, in a few years the com-

munity would have a return from it, at least equal to what I shall here state.

8,000 acres in wheat, at 20 bushels per acre, and 5s. a bushel	- - - - -	<u>£</u> 40,000
10,000 — in barley, at 30 bushels, and 3s. —	-	45,000
1500 — for oats, for horses employed in agri- culture only	- -	
14,000 — of turnips, clover, and artificial grasses, &c. at £2. 10s.	-	35,000
6500 — meadow, exclusive of what the farm- ing horses consume, at £2. 10s.		16,250
Annual value of produce from wastes, &c. in Berks		<u>£136,250</u>

By the foregoing statement, there appears a produce, worth upwards of £125,000 lost annually in the small county of Berkshire only ! But let the reflection be carried still farther, by considering, that bread, and beer corn, sufficient for nearly 30,000 people, might be thus created ; and also an increase of work, that would give full employment to every individual, that is now taxing the landed interest for support.*

Combining, therefore, the advantages that may be effected from the cultivation of the waste land, with those I have already recommended, it is not hyperbolical to assert, that Berkshire has immediate resources in itself, sufficient to support, and employ, an increase of nearly ONE-FOURTH OF ITS PRESENT POPULATION.

* A proportionate quantity of the waste land, might be applied to the growth of those most important articles, hemp and flax ; and independent of the advantages the state must derive from the extension of so valuable a production, the demand for hands to manufacture it, in time of war, would be great, and divert, in some measure, that stagnation of employment amongst manufacturers, that we always experience during hostilities.

REMARK.

Having, in the foregoing pages, delineated, I trust, without prejudice, the present State of Agriculture in Berksbire, and subjoined my Remarks theron, I hope, neither chimerically, nor with presumption:—I will venture to solicit the reader's patience to peruse some General Observations, whicb I bere annex, not only with a view of impressing, on the mind of every one concerned in landed property, how important, and politic, is the encouragement of busbandry; but also to notice, the exemplary proceedings, that are carrying on at the East end of tbis county, for the improvement and extension of it.

GENERAL OBSERVATIONS.

It is an old, and very just remark, that nothing travels so slow, as improvements in husbandry; nor can it be well otherwise, when it is considered, what obstacles they have to surmount, amidst the contracted tracks of provincial custom, and deep-rooted prejudice.

That agriculture has increased of late, and a spirit of liberality with it, is certain. We now see, in many parts of England, spots judiciously cultivated, and made the most of:—but still husbandry is far from its zenith. The material improvements that point towards such an attainment, I consider to be,

1st—The knowledge and introduction of the best modes, and such as are most apposite to the soil.

2dly—The cultivation of the waste land.

And, lastly—Calling forth, and justly rewarding, the exertions of the industrious cottager.

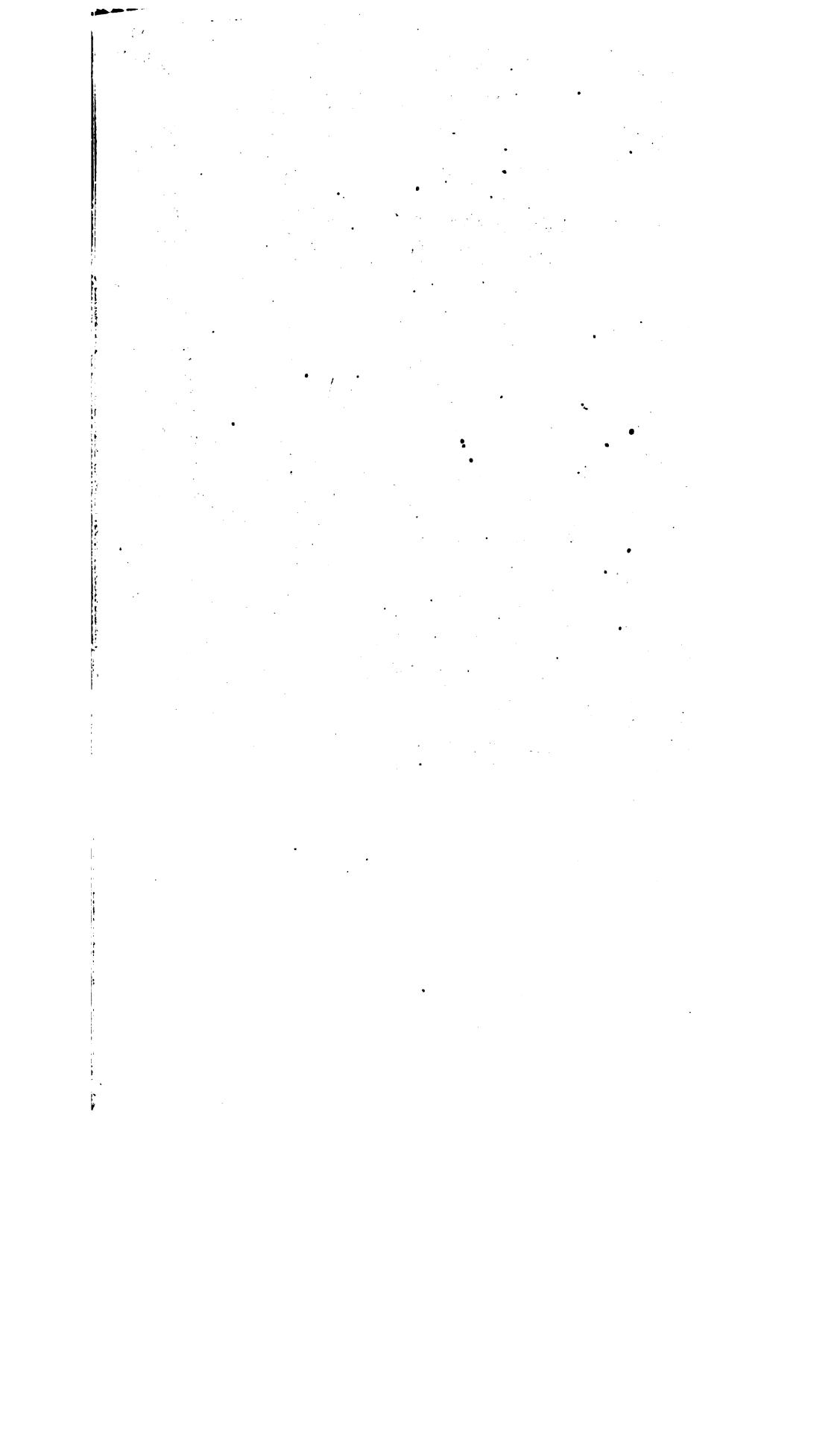
These, in my opinion, are essential to make agriculture perfect; and it is with no small degree of satisfaction, and pleasure, I am enabled to state,—that the most **ILLUSTRIOUS CHARACTER IN THE KINGDOM** has recently set an example, upon a great and extensive scale, for the purpose of effecting, in this particular district, such desirable benefits, on which the comfort and happiness, of the community so much depends;—An example well entitled to general attention, imitation, and adoption.

The Great Park at Windsor, on the death of the late Ranger, his Royal Highness the Duke of Cumberland, some few years ago, reverted to His MAJESTY. It then consisted of about 3,800 acres, of which about 200 acres were covered with water, 200 plantation, 300 meadow, and 200 in arable; the remainder

in park. The arable land was ill selected and disposed ; and instead of lying compact, was scattered in pieces, a mile or two apart ; some of it was in single parcels, surrounded with high pales, separating fine vallies, and concealing ground, of the most beautiful shape. The greatest part of the park, was covered with high ant-hills, moss, ferr, or rushes, and abounded in bogs and swamps, which, in many places, it was dangerous to cross. There were about 3,000 deer, in very bad health and condition, kept in it. In this state, it fell into His MAJESTY's hands. The improvements, which have since, and are now carrying on upon it, are of so conspicuous, and beneficial a tendency, that it cannot fail of producing the best effects. It may be considered, indeed, as a practical school, from which the most rational, and praise-worthy lessons in agriculture, may be taken.

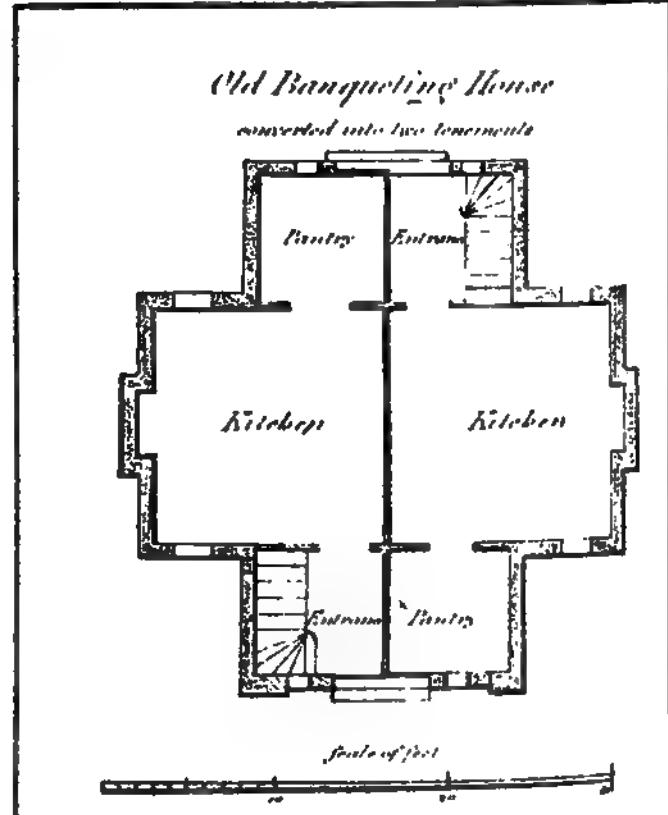
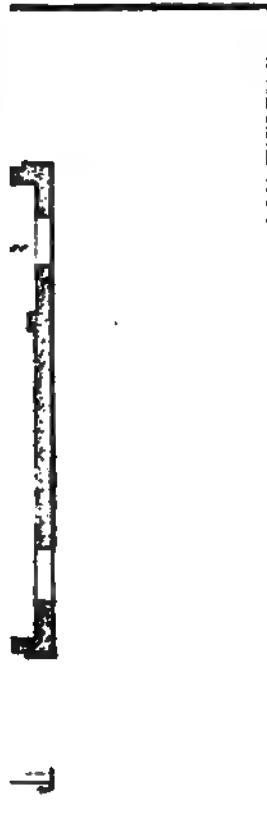
The park is now reduced to 1,800 acres. The detached pieces of arable, which intersected, and concealed, some of the finest parts of it, are laid down and thrown into it. The wet parts are rendered firm and sound, by the Essex mode of under-ground draining.* The rushes are weakened and destroyed, by draining and rolling ; the moss, and small hillocks extirpated, by harrowing ; the large ant-hills cleared, by the scarifier ; the fern weakened, by mowing ; the irregular banks levelled ; pits filled up ; the vallies opened, and smoothed ; the hills ornamented with new plantations ; and the stiff lines of trees, the vestiges of former hedge-rows, judiciously broken ; by which means, great beauty is produced in all parts ; and it is apparent, that the park thus reduced, supports the same number of deer it did before ; and that they are in much better health, and condition.—Such, without exaggeration, is the present state of the park.

* The average depth of the drains, is about 26 inches, six inches at top, and one at bottom ; in some places wood is laid ; but the greatest part being a strong cohesive soil, is formed from the turf being inverted and rammed down, and the loose soil thrown at top ; which is, at a proper time, rolled over. Upwards of 150 miles of this kind of draining has been done in Windsor Great Park during the three last winters.



"TAGES in Windsor GREAT PARK.

Pla





1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

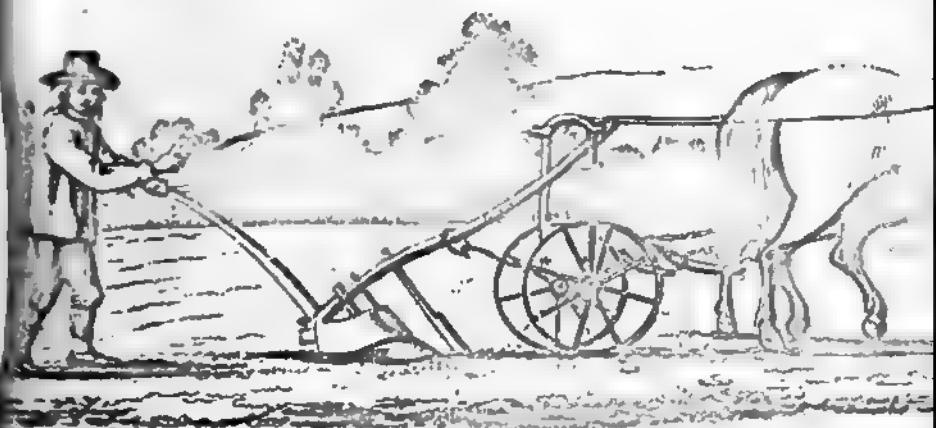
21

22

23

24

PLOUGH used in Windsor GREAT FARM



The Norfolk Plough.
recommended to be used on the light soils of Berkshire.



The Suffolk Iron Plough.
recommended to be used on the heavy soils of Berkshire.

The remainder of what was park, being about 1,200 acres, is a sort of new creation; very promising as to production; and, from its variety, the better worth notice.

At the extreme North end of the park, about 200 acres are added to about 100 acres of the old meadow land; which form what is called, the FLEMISH FARM; about 80 acres of which are in arable, cropped exactly as the land is in Flanders; under a four-course shift, yielding, according to their invariable rule, an alternate crop, for man, and beast. The soil is good, but very strong, and heavy; yet the ploughing is done with ease with the Suffolk iron ploughs, worked by two oxen, or horses, and one man, driving with reins. The working establishment of cattle upon this farm, is four horses, and six oxen. There are eighteen store oxen besides, and twelve are annually fed. There is also a flock of 200 Coteswold ewes; which will, however, be increased next year to 300.

The buildings of this farm are comfortable, and on a compact scale; and there is one new cottage erected; and an old banqueting house converted into two others, in which His MAJESTY has put three of the most exemplary farm, or park labourers, and their families. These cottages, are so truly what poor men of this description ought to have, that I subjoin the plans and elevations of them (see Plate I.); particularly recommending the making of the cellar and pantry over it, in the same manner as they are erected on His MAJESTY's new farm-houses, and cottages; by going up three steps to the pantry, and down only six steps to the cellar, which entirely prevents its being wet, in those soils, where the springs lie near the surface.—The example of building cottages, is so very laudable, that I hope men of fortune will adopt, on many of their large farms, comfortable dwellings, similar to these, not only for the advancement of their own interest, but the industrious man's comfort.

At the opposite end of the park, towards the great Western road, there is another farm formed; which, from a similitude to some of the poor light parts of Norfolk, is called the NORFOLK FARM. There are about 200 acres of old meadow land, to

which are added about 1,000 acres of what was lately park; 500 of which, are allotted for sheep walks; 100 for leasows; and the other 400 are in arable, managed in a five-course shift, of eighty acres in a class; and though the crops do not follow alternately, as they do upon the **FLEMISH FARM**, the spirit of reciprocal benefit, is nevertheless, nearly adhered to, viz.

1st year, wheat.

2d —— One half, green vetches for feeding off, one quarter potatoes or cabbage, and one quarter in buck-wheat.

3d —— Turnips.

4th —— Barley, with seeds.

5th —— Clover.

So that every year there will be 80 acres of wheat; 40 of green vetches, fed off; 20 acres potatoes, or cabbage; 20 acres buck-wheat; 80 acres of turnips; 80 acres of barley; and 80 acres of clover.*

The greatest part of the ploughed ground, was dear in its former state at 5s. an acre; a large proportion of it being similar to its neighbour, Bagshot-heath; yet, at this time, some of it has a crop of turnips, not to be exceeded in value in the county. In short, the whole is in a prosperous, and promising state, and exhibits a lively picture of industry, and economic labour; as the greatest part of the ploughing is done with Norfolk ploughs, by Norfolk boys, from fourteen to eighteen years of age, with two horses, which they drive at the same time they manage the plough. A draft of which I subjoin, as well as of the Suffolk iron plough, worked either with two horses, or oxen, on the **FLEMISH FARM** (see Plate II.)—EIGHT HUNDRED Wiltshire wethers are kept as a folding flock on the **NORFOLK FARM**, with the assistance of which, the

* This course of cropping might be followed with great success in PARKS, where the turf is worn out, and become unproductive. A proportionate quantity might be annually broke up, and a like quantity annually laid down, to continue in grass, after the first five years; which, exclusive of the corn that would arise, would insure a verdant, and productive surface, in those places, where the turf is at present, unpleasant to the eye, and barren of produce.

land will be either mucked, or manured, twice in five years; viz. for wheat and turnips. The flock is constantly penned upon the fallows, or some of the meadow land, except when the sheep are foddered, in the hardest part of the winter, and then they are penned in a fixed fold, made large, and divided into two parts; this is generally done, during the months of December, January, and February. This fold, which is pitched in some sheltered spot, and is first laid a foot thick with maiden earth, is daily littered with leaves, moss, fern, stubble, or any litter that can be collected; and the fold is made use of at opposite ends, alternately every other night; hay being given in cribs, which are moved into the respective folds, as used. When the sheep leave this fold, the beginning of March, a layer of lime, chalk, or peat ash, is put upon the top, and the whole being mixed up together, makes excellent manure for the succeeding turnip crop. It is astonishing what advantages may be deduced, from a steady adherence to this practice.—Six hundred loads of excellent compost, were made the first year of this experiment, in three months, from 600 sheep.

There is a new method, which has been observed in breaking up some of this land, which may be worth notice; and with that view I give it. Some parts of it were so coarse, and rough, that it could not have been broke to pieces, and cleaned in the ordinary way, without much time, and immense labour and expense. The following experiment was therefore tried, and found to answer extremely well. In the early part of the winter, it was ploughed up to a full depth, with a swing plough, the mould-board of which, was so placed, as to lay the turf completely inverted. This was well trod down with cattle, and rolled, and the sheep occasionally drove over it. In the spring, it was harrowed, and cropped with oats. As soon as the oats were off, the surface was harrowed, and dragged, so as to get as much loose earth as possible, without bringing up the turf again. It was sown early in the autumn with winter vetches, which were of inestimable value to the ewes and lambs, the following spring. In the first week in June, when it had produced two crops from one

ploughing, it was ploughed cross ways, when the turf turned up quite rotten, and the land was got into a clean state, by the first week in July, when part of it was sown with turnips, and the remainder with wheat some time after, both of which succeeded to admiration.

The working stock on this farm is 18 horses, and six oxen; and there are about ninety store oxen besides, of different ages; thirty of which are every year stall-fed.

The buildings upon this farm are respectable, but very plain. Detached from the home-yard is a moveable barn, standing on wheels, and calculated for drawing over a long rick of corn; with a yard adjoining. Its utility is very great; and, as it may be worth while for many persons to adopt it, when they have arable land lying at a distance, I subjoin the plan, and elevation of it. It is built with deal, and covered with marsh reed; and the whole expence, in most counties, from fifty to sixty guineas, according to the relative charges of workmanship, and materials.

The sheep-walk, which I have before mentioned, remains to be described. It adjoins the NORFOLK FARM; and about 200 acres are properly an appendage to it. The other part, which is 300, is meant as a separate walk, upon which it is intended to keep a flock of 400 Ryland wethers, as being most suitable to the land, which is wild and coarse, producing very little, beside heath and fern; dear enough, in its present state, at half a crown an acre; but most beautifully shaped into hills, and dales; many parts of a picturesque and romantic figure. It is designed to plant the summits and brows, of most of these hills, not in any regular form, but according to the shape of the high, and convex parts, and to devote all the slopes and coves, to sheep-walks; which will render it a most agreeable object, particularly as this tract of irregularly-formed ground, surrounds the beautiful lake, called the Virginia Water.

I cannot close this account, without taking notice of one other exemplary improvement, which HIS MAJESTY has determined to adopt, namely, that of erecting a mill, upon the NORFOLK FARM. Its purpose is that, of paying such of the labourers on the

park and farms, as wish it, part of their wages in meal, at a moderate rate; and it is also intended hereafter, to let them have mutton, and other meat, at somewhat under the market price. By the effecting of which, the poor man will have these essential articles twenty per cent. cheaper, and avoid the tax his penny is now subject to, when carried to the meal-man, or shopkeeper.

The whole of this grand establishment was formed, and is carried on, under His MAJESTY's personal, and gracious attention, for the most laudable purposes; and the operative management of it, is delegated to my uncle, Mr. Kent; who, I am persuaded, feels the honour conferred on him on this occasion, as a high reward, for a life, which has been devoted to the study, and promotion, of agriculture.

It is evidently, upon a great and rational scale, exemplary of imitation, respecting economic labour, and comfort to the poor man; creative of considerable produce from land, which before lay barren; and, when considered in all points of advantage, the neat husbandry on the farms, the rural beauties of the park, the magnificence of the castle, and the views of the adjoining country; I may venture to say, that the whole, forms one of the finest objects in Europe.

The good effects resulting from the foregoing liberal, and praise-worthy establishment, have, although the object is still in its infancy, manifested themselves on several occasions. And though it may, in some degree, be considered a local improvement, I trust its good qualities, will soon make it an example, generally followed, and diffused over all parts of the kingdom.

How very few parishes are there in England, but could have, under certain regulations, a parochial mill, for the benefit of the poor belonging to it—or, if that could not be established for the general welfare of its inhabitants (an inference, I conceive, in this liberal age somewhat unfair to start), what should hinder a parish from making its overseer a kind of shopkeeper, to supply the poor with necessary articles at such a price as carried no profit with it, after it left the grower, or manufacturer?—These

articles now go through five or six hands, each of whom takes a profit on the commodity, as it passes him.

Another material advantage would arise to the community, if persons of fortune would establish, and become members, of "Friendly Societies;" which are now, by a late act of the legislature, so much encouraged, by the protection of their property, and of those who become members. I do not mean, that in such societies the periodical deposit to the fund should be equal, but that every person, according to his income, should contribute to this resource for old age. If a poor labouring man earns one shilling and four pence per day, on an average, and be instructed to pay one shilling a month, a gentleman of £500 per annum, in my opinion, should give twenty shillings; if a manufacturing hand earns three shillings a day, he should pay two shillings a month, and his master an adequate sum, according to the extent of his trade.

*In those proportions, a fund might be raised in every parish, I am persuaded, sufficient to issue necessary comforts, to the old and infirm, who contributed, when their strength was in its vigour. A distinction would also thus be made, between the idle, pilfering sot, who has passed his life in indolence, and petty theft, and the industrious hard-working man; who now, too often, are put together in the confines of the same workhouse.

The spirit of the poor laws certainly is, that those who live upon the parish, should contribute all in their power to that parish, in forming articles essentially necessary for the welfare of the state. But even this wise, and salutary measure is now almost lost. We seldom see any parish (except it associates with others in erecting a large workhouse), that employs its poor in the manufacturing of hemp, or flax; commodities which are to be applied to so many useful purposes, either for the nation, or individual. To instruct the poor, in their early ages, to habits of industry, and good behaviour, is the first and most essential duty of all ranks. The institution, adopted by a most respectable nobleman, (Earl Harcourt), who resides in an adjoining

county, is at once, so exemplary, and so much to the point, I wish to recommend, that I cannot suppress subjoining a letter, which contains a full description of the *Rural Fête* at Nuneham, transmitted to me by the Rev. Mr. Haggatt, the rector, to whom I consider myself much obliged, for the communication.*

* "I comply with your request, by sending you an account of the Spinning-feast at Nuneham; but, I must confine myself to a general view; and try only to convey the spirit of the institution; for the detail of it, would far exceed the bounds of a single letter. Without, therefore, describing minutely, the birth, parentage, and education, of our festival, I must inform you, that it originated in the very laudable wish of Lord and Lady Harcourt, to promote a spirit of industry amongst the women of this parish; about sixteen of whom (the utmost number who, at that time, could turn a wheel) were accordingly invited to spin for prizes. In a few years, the number increased considerably, and after the prizes were determined, the villagers were suffered to dance upon the green, before the house: and, besides the rewards for spinning, a hat was given to the man, who was judged to have kept his cottage-garden in the best order, during the preceding year; another to the best mower; and a third to the best reaper in the parish. Soon afterwards, a material improvement was made in the distribution of rewards, not for industry alone, but for general good behaviour. In 1782, on account of some accidental circumstances, the plan was discontinued, but it was revived in 1788, with considerable alterations; the principal of which was, the introduction of a religious service, at the conclusion of which the prizes of merit are conferred, and the names of those who gain them, hung within the church, over the parish door.

"Having thus shortly traced the steps by which the Spinning-feast arrived at its present state, I now proceed to a description of it. The business of the day may be properly distinguished into four parts; the first of which, is the Reward of Merit. The persons who are honoured with this prize, are elected by those who have already gained it, and who form, what we call, the Society of Merit: the number of admissions, each time, is limited to four, viz. a man, a woman, a boy, and a girl; but as the society are very cautious in their choice, it frequently happens that the full number is not completed, and that no boy or girl is thought sufficiently qualified for the prize. About noon on the appointed day, which is usually towards the latter end of June, the Society of Merit assemble at Lord Harcourt's house, and follow me in procession to the parish church, there, after a service selected for the occasion, I preach a sermon, part of which is addressed

It is by similar acts of encouragement, and by kindness, and attention to the poor, in the particular periods of their distress, that their veneration, and attachment is secured, and their spirit excited to industry. On the contrary, inattention and neglect,

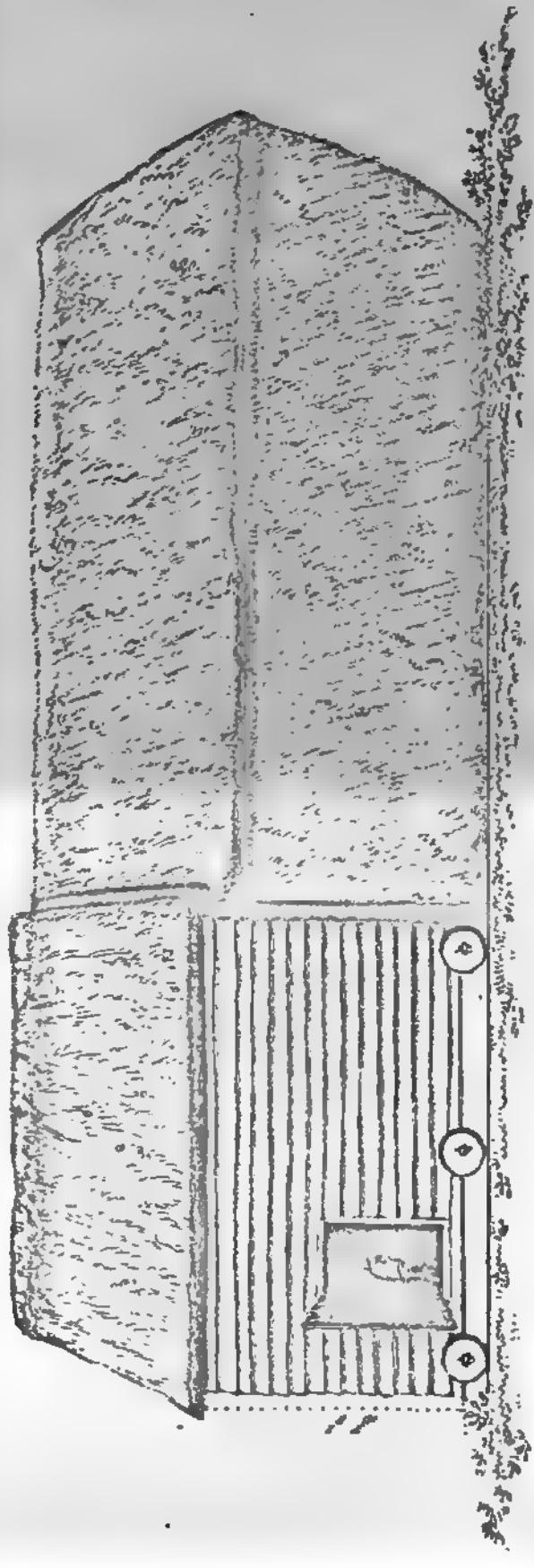
" personally to the new merits, who are placed on chairs before the pulpit.
 " This exhortation being finished, Lord and Lady Harcourt deliver into my
 " hand the prizes (which consist of a hat, and a silver buckle or medallion,
 " with the word *Merit* engraved upon it): and by me, they are presented
 " to the new members, with a few more words of exhortation, addressed to
 " them individually; after which, a copper plate, with their names written
 " on it, is hung upon the wall: and thus ends the ceremony.

" The next division of the day is allotted to the dinner; which is served
 " under a clump of elms, forming an arched canopy, singularly adapted to
 " the purpose: there are two tables, the uppermost of which is appropriated
 " to the Society of Merit, both males and females; the rest of the spinners
 " are seated at the other.

" Dinner being ended, and the wheels (decorated with nosegays), being
 " placed in a semicircle, under some other trees, the spinning begins, and con-
 " tinues about two hours; a band of music playing all the time in the open-
 " ing of the circle; and the sound of the instruments, mixed with the buzzing
 " of the wheels, completes one of the gayest and most interesting scenes that
 " can be imagined. When the spinning is finished, and the thread reeled,
 " the spinners (more than fifty in number, at this time) tie a piece of folded
 " paper, containing their names, to their respective hanks, which are divided
 " into two lots, the one, consisting of those spun by girls under sixteen years,
 " the other, by all above that age. The first of these parcels is then laid
 " upon a table, and a weaver, who has hitherto remained at a proper dis-
 " tance, is called forward to examine the hanks, and determine which is the
 " best thread: when he has decided; the paper attached to it is unfolded,
 " and the name declared. The weaver then fixes on a second, and a third,
 " and so on, according to the proportion of prizes, which Lady Harcourt
 " judges proper to confer, and which is generally two-thirds of the whole
 " number, but decreasing gradually in value;—precisely the same mode is
 " followed with the other lot.

" During the time that judgment is pronounced upon the spinners, the
 " ball room is preparing, on another spot; and as the decorations are ex-
 " tremely beautiful, I wish the limits of my letter would permit me to at-
 " tempt a minute description of them; but that would carry me too far, and
 " I must content myself with telling you, that an Ionic colonnade incloses a

The "MORNING STAR" in WINDSOR Great Park.



11. 19. 1931. Please ground floor the website to open space.

induce them to become, either supine and indolent, or mischievous and disorderly.

The pleasure of doing good, is not the only satisfaction that the gentleman of landed property receives, in attending to, and encouraging, the labouring poor. He will see his estate prosperous. The peasantry on it industrious, happy, and dutiful: and the old, and decrepid, not dragging on a miserable, confined existence in a workhouse; but supported comfortably, by the provident savings, they were, in their earlier years, instructed to lay up for the winter of life.

" piece of turf, the dimensions of which, are 90 feet by 45; and the intervals, between the columns, are ornamented with festoons of lamps: on entering the room, you perceive, in front, the word *Merit*, formed by lamps, " in large characters: and, on each side, a transparent picture, representing " the cottages of Industry and Idleness. In the ball-room the spinning " prizes are distributed: after which, the villagers dance till midnight: and " thus terminate a day, which, to them, is certainly the happiest, and perhaps, " the most useful in the year.

" P. S. They who have obtained the prize of merit, are further distinguished by the letter M painted on the lintel of their doors."

CONCLUSION.

I trust, the observations I have made, will be received, and perused, with candour, and commented upon, with liberality. They are presented, as a tribute due to this happy country, which has ever been pre-eminent, in its agricultural productions. And though the argumentative, and sounder reasoning, of long experienced years, might, in more energetic language, recommend the improvements proposed, they could not be offered with more zealous wishes, or with a more ardent desire, that success may attend the laudable endeavours of the Board of Agriculture ; nor afford greater satisfaction, than I shall experience, if the country at large, or any part of the community, acquire the smallest advantage, or source of comfort, from this **REPORT OF THE AGRICULTURE OF BERKSHIRE.**

W. PEARCE.





G E N E R A L V I E

OF THE

A G R I C U L T U

OF THE COUNTY OF

S U F F O





D

S 455

A2

v. 1

No. 5

A D V E R T I S E M E N T.

THE following valuable communication, respecting the present state of Husbandry in the County of Suffolk, and the means of its improvement, drawn up for the consideration of the Board of Agriculture, is now printed, merely for the purpose of its being circulated there, in order that every person, interested in the welfare of that county, may have it in his power to examine it fully before it is published. It is therefore requested, that any remark, or additional observation, which may occur to the reader, on the perusal of the following sheets, may be *written on the margin*, and transmitted to the Board of Agriculture, at its office in London, by whom the same shall be properly attended to; and, when the returns are completed, an account will be drawn up of the state of Agriculture in Suffolk, from the information thus accumulated, which, it is believed, will be found greatly superior, to any thing of the kind, ever yet made public.

The Board has adopted the same plan, in regard to all the other counties in the united kingdom; and, it is hardly necessary to add, will be happy to give every assistance in its power, to any person who may be desirous of improving his breed of cattle, sheep, &c. or of trying

TO

THE READER.

IT is requested, that this Paper, may be return
Board of Agriculture, before the first of March

It is hardly necessary to add, that the Board
consider itself responsible, for any fact or ob-
contained in these Reports, which, at present, are
and circulated, for the purpose merely, of pro-
ditional information, and of enabling every one
tribute his mite, to the Improvement of the Cou-

Jan. 1794.

INTRODUCTION.

I HAVE rarely been more at a loss than in determining on what plan the report of provincial husbandry could be drawn up, so as best to answer the intention of the Board under whose auspices the present survey has been undertaken. But two circumstances tended to lessen the difficulty. First, The time allowed, which was incompatible with minute detail; and, secondly, the mode of printing with a broad margin, uniting to shew that such a sketch only was expected as might be a sort of syllabus for future annotations. Much, however, as this lessened anxiety, it did not altogether remove it. How far the experiments and observations of individuals should be recorded, was a question of difficulty. To bring forward, under the patronage of so respectable a public Board, the practices of those only who the surveyor preferred, and thought proper to visit in exclusion of a far greater number he either could not, or would not, attend to, would be to erect himself into a situation of more importance than he ought to be placed in, and would be a real injustice to those he omitted. This appeared to me to be a decisive reason for omitting all private and individual experiments, which, it should seem, ought rather to be brought forward in the future correspondence with the Board, when they might themselves be the judges of what was proper to accept and to notice; and if inadvertently they should be guilty of any injustice, it would wear a very different complexion from placing an individual in a situation that admitted it. These considerations have weighed sufficiently with me to draw up these papers in a general

general terms as possible, and to avoid, with the utmost care, all appearance of assuming, in my own person, any discrimination of individual merit, in which it would be so easy (residing as I do in the country) to let private connections and views influence a public work.

Brevity is another object, the importance of which, in these inquiries, is perhaps of the first species of merit. When reports become numerous, should they prove voluminous also, the mass of materials would become so great as to render them with many nearly useless. As far as political arithmetic is concerned, general deductions and abstracts may be a satisfactory remedy; but never in cases of practical husbandry, where every attendant circumstance becomes a part of the main object, and inseparable from it, without danger of error.

(9)

S E C T. I.

EXTENT.

BY the new map of Mr. Hodskinson, an oblong of almost unindented form may be measured, of 47 miles long by 27 broad. The land stretching beyond it, in the N. E. and N. W. parts, will more than fill the deficiency in the S. W. That form indicates a surface of 1269 square miles, or 812,160 acres. In Templeman's survey from old maps, he makes it 1236; but, as he computed by geographic miles, his estimation was confessedly erroneous, and of no other use than that of comparing one country with another. Suffolk, therefore, may be computed at about 800,000 acres.

S E C T. II.

CLIMATE.

IT is unquestionably one of the driest climates in the kingdom; with which circumstance two others unite; the frosts are severe, and the N. E. winds, in the spring, sharp and prevalent. In these northern latitudes, and insular situations, the most humid countries are the most free from frost and snow, till you arrive on the western coasts of Ireland, where the rains are incessant, and frost unknown. Severe winters and dry springs have a strong influence on agriculture; the former render turnips a precarious dependence, and the latter lengthen the winter, to the great expence of the keepers of live-stock. On the whole, however, the climate of this county must be reckoned favourable.

B

SECT.

S E C T. III.

S O I L.

THERE is not, perhaps, a county in the kingdom which contains a greater diversity of soil, or more clearly discriminated. A strong loam, on a clay-marl bottom, predominates through the greatest part of the county, as may be seen by the map annexed; extending from the south-western extremity of Wratting Park, to North Cove, near Beccles. Its northern boundary stretches from Dalham, by Barrow, Little Saxham, near Bury, Rougham, Pakenham, Ixworth, Honington, Knattishall, and then in a line, near the river which parts Norfolk and Suffolk, to Beccles and North Cove; but every where leaving a slope and vale of rich friable loam adjoining the river, of various breadths. It then turns southward by Wrentham, Wangford, Blithford, Holton, Bramfield, Yoxford, Saxmundham, Campsey, Ash, Woodbridge, Culpho, Bramford, Hadleigh; and following the high lands on the west side of the Bret, to the Stour, is bounded by the latter river, with every where a very rich tract of slope and vale from thence to its source. Such is the strong land district of Suffolk taken in the mass; but it is not to be supposed that it takes in so large an extent without any variation: a rule, to which I know few exceptions, is, that wherever there are rivers in it, the slopes hanging to the vales through which they run, and the bottoms themselves, are of a superior quality, and in general composed of rich friable loams; and this holds even with many very inconsiderable streams which fall into the larger rivers. The chief part of this district would in common conversation be called clay, but improperly. I have analized many of these strong loams, and found them abounding with more sand than their texture would seem to imply; so that were they situated

situated upon a gravel, sand, or chalk, they would be called *fandy loams*; but being on a retentive clay-marl bottom, are properly, from their wetness, to be termed *strong* or *clayey loams*.

The district of rich loam being much less clearly discriminated, will leave more doubts on the minds of persons acquainted with it. From the river Deben, crossing the Orwell, in a line some miles broad, to the north of the river Stour, to Stratford and Higham, there is a vein of friable putrid vegetable mould, more inclined to sand than to clay, which is of extraordinary fertility: the best is at Walton, Trimley, and Felixtow, where, for depth and richness, much of it can scarcely be exceeded by any soils to be found in other parts of the county, and would rank high among the best in England. As the position recedes northward to the line from Ipswich to Hadleigh, it varies a good deal; in many places it approaches sand, and in some is much stronger, as about Wenham and Raydon: the general complexion, however, of the whole of Sampford hundred is that of good loam. I was much inclined to class the hundreds of Lothingland and Mutford, that is, all to the north of a line drawn from Beccles to Kessingland, in this division of soil; the rent of much would confirm such an arrangement; but on reconsidering the quality of the soil in various parts, and palpable sand so often intervening, especially along the coast, I think it, upon a general scale, safer to let it pass as part of the fandy maritime district.

Of that district I must observe, that my arrangement will startle many persons, who speak of *clay* in a loose and indefinite manner. I was told of large tracts of clay near Pakefield and Dunwich, and particularly on the farm of Westwood Lodge; but when I examined them I could not find a single acre: I found rich loamy firm sand worth 20s. an acre, but nothing that deserved even the epithet *strong*. I was assured that there was little or no sand in Colne's

hundred, where I saw hundreds of acres of buck wheat stubbles. All these expressions result from the common ideas of soils being not sufficiently discriminated. Land of 15s. or 20s. an acre, in the eastern parts of the county, is never called sand, though deserving the epithet as much as inferior ones. The error has partly arisen from the title of *sandling* being given peculiarly to the country south of the line of Woodbridge and Orford, where a large extent of poor, and even blowing sands is found; but speaking with an attention to the real quality of the soil, and not at all regarding the rent, the whole of the maritime district may be termed sandy; towards the north, much inclining, in various parts, to loamy sands, and in others to sandy loams; but so broken, divided, and mixed with undoubted sands, that one term must be applied in a general view to the whole. This district I take to be one of the best cultivated in England; not exempt from faults and deficiencies, but having many features of unquestionably good management. It is also a most profitable one to farm in; and there are few districts in the county, if any, abounding with wealthier farmers, nor any that contains a greater proportion of occupying proprietors, possessing from one hundred to three and four hundred pounds a year.

The under stratum of this district varies considerably, but in general it may be considered as sand, chalk, or *crag*; in some parts marl and loam. The crag is a singular body of cockle and other shells, found in great masses in various parts of the country, from Dunwich, quite to the river Orwell, and even across it in Wolverton Park, &c. I have seen pits of it from which great quantities have been taken, to the depth of fifteen and twenty feet, for improving the heaths. It is both red and white, but generally red, and the shells so broken as to resemble sand. On lands long in tillage the use is discontinued, as it is found to make the sands blow more.

The western district of sand is a much poorer country, containing few spots of such rich sands as are found on the coast, but abounding largely with warrens and poor sheep-walks. A great deal under the plough *brows*, and consequently ranks among the worst of all soils, black sand on a yellow bottom perhaps excepted. Parts of the district take, however, the character of loamy sand; the whole angle, for instance, to the right of the line from Barrow to Honington, (see the map) in which no blowing, or even very light sand is found. A more striking exception, though of small extent, is found at Mildenhall, where there is an open field of arable land of capital value, dry yet highly fertile, and friable, without being loose; its products almost perpetual, and its fruitfulness almost unvaried. The under stratum, through almost all the district, is a more or less perfect chalk, at various depths, but I believe uninterrupted; and it may be received as a rule, that the whole of it, low vales on rivers only excepted, is proper for sain-soine.

Of the fen district it is only necessary to observe, that the surface, from one foot to six, is the common peat of bogs, some of it black and solid enough to yield many ashes in burning; but in other places more loose, puffy, and reddish, and consequently of an inferior quality; the under stratum generally a white clay, or marl. Part of these fens is under water, though subject to a tax for the drainage, which has failed; but in Burnt Fen, by a late act of parliament for improving the banks, 14000 acres are completely drained, and under cultivation.

S E C T. IV.

ESTATES.

THE state of property in Suffolk may be considered as beneficial in its division. The largest estate in the county is supposed not to exceed 8000 or 8500l. a year; and it is a singular instance of the rise in the value of land within the period of forty or fifty years. There are three other estates which rise above 5000l. a year; and I have a list of about thirty others which are about 3000l. a year and upwards. Under this there are numbers of all sizes; but the most interesting circumstance is of a different complexion, I mean the rich yeomenry, as they were once called, being very numerous, farmers occupying their own lands, of a value rising from 100l. to 400l. a year. A most valuable set of men, who, having the means and the most powerful inducements to good husbandry, carry agriculture to a high degree of perfection.

S E C T. V.

TENURES.

THE great mass of the county is freehold property, but copyholds are numerous, and some of them large. Of college leases, scattered in various parts, nothing particular is to be noted.

Under this head, however, may be noted improperly arranged some customs which are very great impediments to the due cultivation of the soil; these are the rights of commonage

and pasture, which exceed the ordinary cases. At Troston, on the borders of the western sand district, I found open field lands in which the course is one crop to two fallows; and these consist in leaving the land to weeds for the flock of one farmer, who, by prescription, is the only person that can keep sheep in the parish! Nothing can be imagined more beggarly than the husbandry and crops on these lands; the same farmer has even the right of sheep-feeding many of the inclosed pastures and meadows after the hay is removed. In return for such privileges, he is bound to fold a certain number of acres for the other farmers. It is not difficult to trace the origin of such customs; but wherever found, they ought to be abolished, by giving an equivalent.

S E C T. VI.

FARMS.

THESE in Suffolk, must in a general light, be reckoned large; and to that circumstance, more, perhaps, than to any other, is to be attributed the good husbandry so commonly found in the county. In the district of strong wet loam, there are many small ones from 20*l.* to 100*l.* a year; but these are intermixed with others that rise from 150*l.* to 300*l.* and some even more. In the sand districts, they are much larger, many from 300*l.* to one of 850*l.* or 900*l.* that of West Wood Lodge near Dunwich, in the occupation of Mr. Howlett, and belonging to Sir John Blois, Bart. consisting of above 3000 acres, and is without exception the finest farm in the county. Agriculture is carried on to great perfection, through much of these sand districts, owing not a little to these large occupations in the hands of a wealthy tenantry. But this is a point

point that calls for an observation relative to the profit of cultivating different soils, which is, that there is no comparison between the wealth of our farmers on dry and on wet land. On the former, the occupation of a farm of 200*l.* or 300*l.* a year, has been throughout the county generally found attended with a very handsome profit, visible in various circumstances, and ascertained on the death of the farmers. But on the wet land, though numbers are very much at their ease, yet the advantages and fortunes made have been exceedingly inferior; and mixed with many instances that will not allow the idea of considerable profits. Conclusions may be drawn from this not unimportant: it should seem to mark what I have many years observed, that the management of light soils is vastly better understood than that of heavy ones; and it may possibly be found, that the latter are higher rented than the former. The fact is probably owing also to the arable land being, on wet soils, in too great proportion to the grass. These are circumstances much deserving the attention of landlords.

S E C T. VII.

RENT.

TO ascertain as nearly as possible the rent of land, in every county of the kingdom, is an object not only of political importance, but of great utility even in an agricultural view. In many cases, for want of other authorities, the produce of the soil cannot be calculated, but by means of the fair rent of it; and it is unnecessary to explain the variety of lights, in which a knowledge of the gross produce is of material consequence, being in truth the greatest and most solid foundation of the national wealth and power. There is, however, some delicacy

delicacy necessary in treating, under the authority of a public board, a subject which has been apt to excite jealousies, as if it were possible that ascertaining rent was one step to the possible imposition of certain taxes. The idea seems to me unfounded: Government has such a variety of methods of acquiring knowledge of that nature, that she could derive very little assistance from any possible enquiries made through the medium of a Board of Agriculture. And it might further be observed, in all questions of taxation, ascertaining the national amount of any object is of far less importance, than deciding upon the principles and effect of the imposition, which must ever determine such questions; and by no means the fact of a rental being 20 or 24 millions, or any other sum to be supposed. In an agricultural light, a knowledge of the rent is an essential article, for there are low rents paid by certain modes of management, with more difficulty to the tenant than would attend much higher ones, under a change of conduct. Such a difference is a very strong argument, applicable equally to both landlord and tenant.

To ascertain the rent of the several districts is impossible; nothing more is to be expected than to guess, with some degree of approximation to the truth. On the foundation of as correct information as I could, from residence and examination, procure; I am inclined to believe, that the several soils are at present rented as under, the whole country included, sheep-walk, waste, commons, &c. which are very large deductions from the rate of the cultivated land.

	£. s. d.
The strong or wet loam, at per acre,	0 13 0
The rich loam,	0 14 0
The maritime district of sand,	0 10 0
The western do. of do.	0 5 0
The fens,	0 2 6

It should be noted, that there are in all these districts, except the fen, tracts that let at 20s. and 25s. and even higher rents,

rents, and meadows higher still; but the rents here minuted are those of the whole county, as viewed in the map.

GENERAL VIEW OF THE RENTAL OF THE COUNTY.

Dividing the county according to the soil in the annexed map, and weighing each division accurately, I find the proportions are, to the total of 800,000 acres, as under; to which I have added the rent and totals.

ACRES.		£.	s.	a.
30,000 fen, at 2s. 6d.	- - - - -	3750	0	0
46,666 $\frac{2}{3}$ rich loam, at 14s.	- - - - -	32,666	13	4
256,666 $\frac{2}{3}$ sand, at 10s.	- - - - -	78,333	3	4
113,333 $\frac{2}{3}$ do. at 5s.	- - - - -	28,333	6	8
453,333 $\frac{2}{3}$ strong loam, at 13s.	- - - - -	294,666	13	4
<hr/>		<hr/>		
800,000 average rents, 20s. 6d.		£. 437,749	16	8
<hr/>		<hr/>		

S E C T. VIII.

WASTE LANDS.

IF there is one object more important than another in the examination of the agriculture of a province, with a view to the improvements that are practicable in it, it certainly is this of wastes. No person, who has reflected seriously on the state of the soil of England, but must be well convinced that there want few instigations to cultivate wastes, but the power to do it, without those very expensive applications to parliament, which are at present necessary even for the smallest ob-

jects. If the Board of Agriculture be able to accomplish this desideratum, it will merit greatly; and the national interests find themselves advanced in a degree which no other event whatever could secure. The magnitude and importance of this design cannot be understood, without discovering the extent of these wastes, which will, without doubt, be effected by means of the surveys going on in every part of the kingdom.

I have calculated from much information, of different kinds; and from comparing and combining various data, conclude that there are in Suffolk wastes to the amount of nearly, perhaps quite 100,000 acres, or $\frac{1}{4}$ th part of the whole; comprehended under the terms sheep-walk, common, warren, &c.

It is, however, to be noted, that none of these are, strictly speaking, absolutely *waste*, if by that term is understood land yielding nothing: I include all lands uncultivated, which would admit of a very great improvement, not always profitably to the tenant, who may, on a small capital, make a great interest per cent. by a warren, for instance, but in every case to the public.

Commons fed bare, may seem to yield a considerable produce, but there is often a great deception in it; the cattle and sheep should be followed through the winter, and whenever it is found, that there is no adequate winter provision, so often the case with poor men's stock, there are large deductions to be made from the apparent produce of the summer.

S E C T. IX.

HUSBANDRY.

THE management of the arable land, in the four distinct soils, is essentially different, and merits a description as particular as can be given in the short compass of such a sketch as this.

STRONG LOAM ON A CLAY-MARL BOTTOM.

Common exertions in common practice diverge into such endless variations, that to note the methods pursued by individuals, would fill a volume. In a work of this nature, which must be considered but as a sketch of the subjects to be treated more particularly by those whose situation enables them locally to give the authority denied to others, it is only practicable to seize the most prominent features, such as best discriminate the system pursued.

In the strong soils of Suffolk, the course of crops, into whatever variations it may usually be thrown, includes summer-fallow as the common preparation for the rotation of corn products; the old system, very general, about forty or fifty years ago, was the uniform husbandry of unenlightened Europe.

The fallow to prepare for wheat; the wheat succeeded by oats or barley; and that again by the return of fallow. This husbandry is still found even in inclosed lands. But, generally speaking, it is changed for one of two other courses, either

either to make the fallow still the preparation for wheat, or to change that crop for barley. In one case it is thus :

1. Fallow,
2. Wheat,
3. Barley,
4. Clover,
5. Wheat;

or the same principle governing many variations. This principle is, that a fallow once given will enable the farmer to omit it the second return, and even the third also, by means of clover, tares, pease, &c. Thus improving a little upon the old true system of a dead fallow every third year.

The other method is a later improvement ; to change the principle of relying on a year's tillage as the preparative for wheat, and substituting clover. Thus,

1. Fallow,
2. Barley,
3. Clover,
4. Wheat,

which, for lands (if such there be) that really demand fallowing, is a correct mode, and seldom practised except by very good farmers. Others, not of equal intelligence, continue it by the addition of a crop of barley or oats after the wheat ; or by sowing clover with that crop, taking pease after the clover, and wheat after the pease.

The note of these courses is sufficient to give the general idea of common practice on this soil. Variations cannot be attended to : a notable one is, planting cabbages instead of fallow : but, as that will be mentioned elsewhere, I omit it here.

RICH LOAM.

On this soil the management is more uniform. The rotation, called the Norfolk husbandry, is very generally introduced, which is making turnips the preparation for barley, and clover that for wheat, in the course of,

1. Turnips,
2. Barley,
3. Clover,
4. Wheat,

which is certainly one of the best systems that ever was invented, and, indeed, altogether unexceptionable. There are two common variations, but both for the worse; to take a second crop of barley or oats after the wheat, and then recommence: the other, to sow clover with that second barley, and then wheat again on that clover: this is very bad, for it fouls the land.

SAND.

On the sand districts the management varies proportionably with the badness of the soil; but in one feature it is universal, that turnips are every where the preparation, the basis for both corn and grass. There is no sand so light that it will not yield, by means of dung or fold, this crop.

After turnips, barley is generally sown; then grass seeds succeed, but with variations. On bad sands trefoil and ray grass are chosen, because their duration equals the views of the farmer: they are left commonly three or four years, and when broken up, a *bastard* fallow given for rye. The discrimination between good and bad farmers, in this arrangement,

ment, depends entirely on this point; good ones consider every thing as subservient to sheep, consequently leave their grasses as long as possible; but bad ones, in a hurry for corn, and an immediate advantage, plough too soon. All these sandy districts are invariably sheep farms (rabbits only excepted) the flocks feed in winter on turnips, and in summer on these *la, etc.*

Buckwheat forms in some very poor spots a variation; and small pieces of tares and peas are sometimes seen; but the system I have described holds good in general.

FRN.

The course of crops generally pursued in this district is to sow cole seed on one ploughing, after paring and burning; which is for sheep-feed or seed, according to circumstances; then oats twice in succession; with the last of which crops they lay down with ray grass and clover, for six or seven years, and then pare and burn, and repeat the same husbandry.

Such are the courses of crops which are usually practised in the four predominant soils of Suffolk; and I should remark, that they are found indiscriminately on the fields of men who have worked no improvements, and those by whom considerable ones have been effected.

SECT. X.

OPERATIONS OF TILLAGE.

Ploughing. IN every part of the county this is done with a pair of horses, conducted with reins by the ploughman;

and the quantity of land usually turned in a day is an acre upon stiff soils, and from one and a quarter to one and a half on sands. The Norfolk wheel plough, and the little light swing plough of Suffolk, are the common implements. The latter is a good tool for depths not exceeding four inches, but a better construction is wanted for greater depths.

A very ingenious blacksmith, of the name of Brand, who has been dead some years, improved the Suffolk swing plough, and constructed it of iron. I have been informed, that the copse, in its present state, was an improvement of his; if so it is much to his credit, for there is no other in the kingdom equal to it.

Oxen are used by a few individuals, but nowhere common.

The form of laying arable lands upon dry soils, is, on the flat, with finishing furrows; alternate gathering and splitting; but on wet lands, the three foot Essex ridge of two bouts is most common. In some districts, six, eight, and ten feet *sleatches*, a little arched, are used.

Rolling and Harrowing. In general, there is nothing in the practice which demands particular attention; but I found in the hemp district a management in working clover lays for wheat, which ought to be noted. A heavy roller follows the ploughs, then a spike roller. This prepares well, especially in a dry season.

Dibbling Wheat. This practice, which there is every reason to denominate excellent, is well established in the county, and increases every year. In the maritime sand district, many thousand acres are thus put in. One farmer near Dunwich, the year before last, dibbled 258 acres, and this year above 250, that is, his whole crop; and many others apply the same method for their whole wheat crop. The ground being rolled with a light barley roller, a man, walking

walking backwards on the *flag*, as the furrow slice is called, with a dibber of iron, the handle about three feet long, in each hand, strikes two rows of holes, about four inches from one row to the other, on each flag; and he is followed by three or four children, to drop the grains, three, four, or five in each hole. In this way, from six to seven pecks of seed are deposited, at very equal depths, in the center of the flag. A bush harrow follows to cover it; the expence eight to nine shillings an acre. There are several circumstances which tend to render this method superior to the common. The treading so equally, is very beneficial upon light soil; and in dry weather hurtful upon none. The seed is laid in at an equal and good depth; and it is all in the flag itself, and not dropt in the seams, where weeds, if any, will arise: and there is some saving in seed. The fact is, that the crops are superior to the common, and the sample more equal. It is not common to hoe, except only one row is put in instead of two. Some use a frame which strikes many holes at a time; but the work is not so well done, and I found the practice not equally approved. The vast system of well paid employment for the poor, which this practice carries with it, is a point of immense importance. I heard of families who had received, father, mother, and children, among them, two guineas a week, for six weeks.

Drilling is practised with great intelligence and success, by individuals, in several parts of the county; but no where has the least tendency to become the common practice. In some districts it declines; and while dibbling spreads rapidly, this practice moves with difficulty. The kinds of drills are various; Mr. Cook's variations of Mr. Ridge's, and a new one, which promises to be an improvement on all, and which was invented by Mr. Stanton of Weybread, is now made by Mr. Brock, a mill-wright at Harlstone.

S E C T. XI.

GRASS LAND.

THE management of meadows and upland pastures, in this county, in general, can scarcely be worse. Upon the same farms, where almost every effort is made upon the arable, the grass is nearly or quite neglected. A little draining is sometimes, though rarely, bestowed. Manuring is unknown in the hands of tenants; and as to mole and ant hills, bushes, and other rubbish, immense tracts of what is called grass, are over-run with them. Rolling is seldom given. Things wear rather a better aspect upon farms occupied by the owners; but, speaking generally, I allude principally to tenants. As to lands in the hands of gentlemen, they are managed, in many cases, in a much superior stile, but not always.

Whatever is expended upon arable land, the tenant can, in the course of a lease, get back again. Upon grass this is not the case: he may make as large a profit; but still he will leave something at the end of a term for the landlord. If this idea be not the cause of the ill management noted, I know not what is. But the conduct ought to be a lesson to landlords, never to allow grass-lands to be broken up: instead of which, it has been common, in various parts of the county, to let great tracts be broken up, to the unquestionable damage of the farms.

S E C T. XII.

IMPROVEMENTS.

THESE in Suffolk are important, and will offer to the eye of an attentive traveller much subject of instruction. They are,

1. On strong loam—hollow draining.
 2. On sand—clayng.
 3. On fen-land—paring and burning.

The other soil, the rich loam, wants no other amelioration than what good management yields in its ordinary routine.

HOLLOW DRAINING.

This most excellent practice is general on all the wet lands of the county : it is too well known to need a particular description. I shall only observe, therefore, that the distance between the drain is usually from $5\frac{1}{2}$ to 8 yards; the common depth is 24 inches, from 20 to 26; the breadth at top, just wide enough to admit a man to work in, and at bottom, as narrow as possible, not more than two inches. The materials used for filling, bushes covered with straw, sometimes straw or stubble only ; and the expence, if with bushes, amounts, on an average, every thing included, to two guineas, or forty-five shillings an acre, the men being paid three shillings a score rods for the work. The duration varies, according to the goodness of the work and materials, from 12 to 25 years ; and some filled with straw only have been known to last much longer. It will not be improper to hint, that there are two errors very common in the performance of this improvement. The first is, making the drains in, or nearly in, the direction of the declivity; whereas they ought

always to be made obliquely across it. The other is, that of marking out, and making numerous drains across the sides of springy hills, which might, in many cases, be drained completely with a single drain, judiciously disposed, according to those obvious principles upon which the celebrated drainer, Mr. Elkington of Leicestershire, proceeds.

No improvement can have greater or more immediate effects than this of draining; none that pays the farmer with more certainty. Its importance is perfectly well understood, and the practice general.

About twenty years ago, a Mr. Makins, of this county, invented a plough for cutting these drains, which was rewarded by the Society of Arts; but, on various attentive trials, it was found to work at a greater expence than the spade, and has long since been totally laid aside.

CLAYING.

A term in Suffolk which includes marling; and indeed, the earth, carried under this term, is very generally a clay marl; though a pure, or nearly a pure clay, is preferred for very loose sands.

The extent to which this improvement has been carried, in both the sand districts, is very considerable, there being few farmers of any note, on very light land, that have not carried large quantities. An excellent cultivator near Bury, though not on a very large farm, has carried 140,000 loads. The operation of this manure, acting both chemically and mechanically, is so obvious on very light soils, that it wants no explanation. But when the *clay* is not of a good sort, that is, when there is really none, or scarcely any clay in it, but is an imperfect, and even a hard chalk, there are great doubts how far it answers, and; in many cases, has certainly been spread to little or no profit. The quantity usual is from 60

to 80, and sometimes 100 loads an acre, the load containing about 32 bushels. The men are paid from 27*s.* to 30*s.* per 120, for filling and spreading, earning 10*s.* or 11*s.* a week; and the expence of teams is about as much more. When this manuring is done, therefore, on very poor land, the expence is equal to the value of the fee-simple of the estate. The duration, and indeed the whole effect, depends much on the course of crop pursued. If the plough is too freely used, and corn sown too often, it answers badly, and the effect is soon lost; but, with good management, it lasts 20 years. Where the management is good, and the clay well adapted to the land, the profit is very great. In many cases, a course of fallow and rye, or light oats, is converted to fine barley, clover, and wheat, and the produce of the soil multiplied twenty-fold; but, on the contrary, the cases, in which the return has been inadequate, are not a few. And I believe it will be found, that, on soils that will yield fain-foine, it is more profitable to cultivate that grass, than to clay the land for corn.

In a part of the maritime sand districts called *the Sandlings*, which are south of Woodbridge, Orford, and Saxmundham, they formerly made a very great improvement, by spreading shell marl on the black ling heaths, with which all that tract was once covered. But as the marl, called there crag, is all dry powdered shells, like running sand, without any principle of adhesion, the effect was good only once; for, after cultivating those heaths, on trying the crag a second time, it was found to do little or no good; and in some instances even to make the sand blow the more. It seems, therefore, to have acted in this respect like lime, which has been frequently found to have great effect on the first application, upon lands long in a state of nature; but on repetition that effect has been found to be lost.

In the carrying on of clay, or marl, they have made, of late years, in the maritime district, especially about Blithford and Dunwich,

Dunwich, one great improvement, which is substituting the one-horse three-wheel cart for the common large tumbril. Thirty of these small carts have been at work in a single field, while the great tumbrils were all left idle at home; having been found, on careful trial much inferior to them. A sketch of this nature does not admit the detail of economical management; but new and important features it may be right just to touch on.

PARING AND BURNING.

This husbandry, which, properly managed, is the most admirable of all improvements, and impropply, the most mischievous, is known only in the small angle of Fen. In that district they could not cultivate without this capital assitant. It is scarcely possible, profitably, to bring boggy, moory, peat soils, from a state of nature into cultivation, without the assistance of fire, which is the most effective destruction of the spontaneous growth, and never fails, but because the men employed do not pare deep enough. In these fens the original surface is rough and unequal, from great tusis of rushes, &c. called there *hassocks*. Some persons cut them with spades, at the expence of five to ten shillings an acre; others with the plough. Paths for the horses were, in that case, to be cut by hand, and the plough made on purpose, and called a hassock plough, cut laterally much beyond the line of its draught. But opinions are, in general, that hand work is the cheaper: in either case the hassocks are dried, heaped burnt, and the ashes spread. After this they go over it again with a very complete and effective tool, called a fen-paring plough, the furrow of which is burnt. Coleseed is then sown on one shallow ploughing; never harrowed, in order not to disturb the whole furrow, but rolled, or lightly bush harrowed. This coleseed is either for a crop of seed or for sheep

for sheep food; in the latter sells for a guinea an acre; in the former, two or three guineas. Oats are then sown; the crop productive; and the land, if well laid down to grass, becomes good meadow. But the management in this respect is very bad, for they sow only clover and ray grass; and after six or seven years, pare and burn again; instead of which, if proper seeds were sown, the land would be ever after in an improving state.

Whatever objections have been made to the husbandry of paring and burning, have either been the result of theoretical reasonings on false principles; or else founded on facts, furnished by very bad farmers. The common conduct is to make this operation the preparation for successive corn crops, and perhaps in a bad rotation. If a dunghill were given to a bad farmer, and it was used on similar principles, it would almost equally exhaust the soil; yet who has found out that dunging land is bad husbandry? Paring and burning gives a dunghill also; it is bad management alone that converts it into an evil. Make it the preparation for grass, and all is safe.

It is very rare to find such instances of sudden improvements as have been made in Burut Fen. Forty years ago 500 acres were let for a guinea a year; but in 1772 an act was obtained for its separate drainage, and 1s. 6d. an acre levied for the expence of the embankment, mills, &c. In 1777, the bank broke; and most of the proprietors ruined. In 1782, on the success of the machine called *the Bear*, in cleansing the bottoms of the rivers, and other reasons, occasioned some persons to purchase in this neglected tract. The banks were better made, mills erected, and the success great. Servants of the former proprietors bought lots for 200*l.* with almost newly erected buildings on them, that cost 3, 4, and 500*l.* Such lots now let at 100*l.* per annum Anestate of Mr. Jones, bought of —— Chitham, Esq.

for 200*l.* would now sell at 2000*l.* A Mr. Cash bought 800 acres for 25*l.* he since sold half of it to Edward Gwilt, Esq. of Icklingham, for 100*l.* the other half he sold for 300*l.* which has been resold for 800*l.*; and Mr. Gwilt could now sell his for 1600*l.* Three farms sold for 600*l.* would now let for 300*l.* a year. Mr. Foote of Brandon, in 1780, bought 390 acres for 150*l.* a considerable part of which is now let at 10*s.* an acre. All these improvements have been very much owing to paring and burning.

S E C T. XIII.

OF LIVE STOCK.

THIS object is perhaps the most important in the whole range of rural economies. The poorest and most backward nations contrive to raise bread for their consumption, equal to the demand; and to increase the quantity with the increase of their mouths. Their wheat, in the most miserable husbandry, is nearly equal, and much of it superior, to that of our highly cultivated fields; and we feel constantly in our markets the effect of their competition; but with all that concerns live stock, the case is abundantly different; it is by great exertions only, that a people can be well supplied, and for want of such exertions, many nations are forced to content themselves with such meat as others would not touch. Look at a sample of French and Swiss wheat, no difference is found; but examine the cows of Switzerland and of Lorraine, what a difference! Compare the mares of Flanders with the ponies of Bretagne, the sheep of England and of France; nay, let us come nearer home, and reflect on the

wool is in contemplation, examine the fleeces of Segovia and of Italy, in the same parallel of latitude.

Next to the cultivation of waste lands (which by the way much depends on the well ordering of live stock,) this is the greatest desideratum in the agriculture of Britain. The sheep, cows, hogs, and horses of Suffolk, demand attention.

L. SHEEP

The Norfolk breed of sheep spread over almost every part of the county; and as the most famous flocks are about Bury,---much more celebrated than any in Norfolk---it has been observed, that they ought rather to be called the Suffolk breed. This race is so well known, that it would be useless to give a particular description of them; it is, however, proper here, to note their principal excellencies and defects. Among the former is the quality of the mutton; it being admitted at Smithfield, that as long as cool weather lasts, it has, for the table of the curious, no superior in texture or grain, flavour, quantity, and colour of gravy, with fat enough for such tables. In tallow, they reckon no sheep better. In fatting, at an early age, they are superior to many breeds, though fail to be not equal to some others. The wool is fine, bearing in price, per lb. the third sort in England. Their activity in bearing hard driving, for the fold, is much spoken of. In hardiness and success, as nurses, they are also much esteemed in this county. Such are their excellencies; the defects with which they are reproached, are, a voracity of stomach, which demands more food, in proportion to their weight, than some other breeds; and the consequent circumstances of being necessarily kept very thin on the ground: a want of that disposition to fatten, which keeps stock in great order on middling, and extraordinarily fat on good food: both circumstances, resulting from an ill-

E formed

formed carcass; a ridged back; large bones; a thin chine; and heavy offals: a restless and unquiet disposition, which makes them difficult to keep in any other than the largest walks, commons, or fields; a texture of flesh that will not keep in hot weather, so long as that of South Down, and consequently said to be inferior in price at that season; a loose ragged habit of wool, losing if not in high keep.

These ill qualities have so much foundation in facts, that other breeds are introducing rapidly into both Suffolk and Norfolk, and promise speedily to be well established. It is proper to observe, that of all these objections to the Norfolk breed, there is none more notorious, or more susceptible of direct proof, than the number kept on a given quantity of ground; which, in these two counties, is fewer than is kept on similar land of some other breeds. This is an object of importance; whatever merit or advantage is attained by keeping 500 sheep on a farm of 750 acres, sinks much, if 750 of some other breeds might be kept on the same land. The first and greatest of the national interests, as well as the profit of the individual, is intimately concerned in such a position.

In the management of their flocks, our farmers have no point so interesting, as the almost entire reliance for the winter support on turnips. In some counties, Large flocks are kept without turnips: here they have not an idea of the possibility of such a conduct. The late Mr. Macro, and the present Duke of Grafton, have given most particular and accurate details of their respective flocks; * and the former allows 80 acres of turnips for 36 score ewes; besides 20 acres of winter tares, 20 acres of rye, and 16 ton of hay. The latter, for 47 score of ewes, 100 acres of turnips, 50 of rye, 22 tons of hay; and I find that it may be taken

* Annals, vol. 2. p. 427. vol. 7. p. 1.

taken as a common allowance, 100 acres of turnips for a flock of 30 score of ewes, which makes 6 to an acre. But this breadth will not be sufficient, without some assistance from hay, and also from rye; the quantity of both these vary much. It depends also on the breadth of sheep walk; and whether such walk is well stocked with ling or furz, and kept back in summer, in order for yielding the more food in time of snow and frost. If these preparatives are compared with those of most other counties, it will be found, that our Suffolk flock-masters allow, with great liberality, for the winter season, and are at an immense expence to meet it. Whether this does not partly arise, from the breed they are so fond of demanding great *keep*, deserves enquiry.

This most ample provision of turnips is, however, attended with one very great inconvenience; which is, the excessive distress that results from such a severity of weather as rots that crop; the loss of 100 acres, or even half of it, in the provision for 30 score ewes, can only be made up by a dreadful expence in hay; which, in such severe winters, is usually at a price much beyond its average value. I have known flock-masters buy hay for their sheep, at the rate of 5*l.* a day, for weeks together. Such accidents ought certainly to induce them to vary their provision more, by substituting cabbages, kale, cole-feed, &c. in lieu of a part of their turnip crop.

But, the provision, of all others, the most important, because the cheapest and most effective, is *rouen*, as it is called in Suffolk, that is, the after-grass of the mowing ground. The value, fed in autumn, rarely exceeds 10*s.* or 12*s.* an acre; but kept till the spring for ewes and lambs, is worth from 20*s.* to 30*s.* an acre.

For the summer food of sheep our flock-masters depend altogether on what is called the sheep walk (a piece of waste land) and the *layers*, artificial grasses, clover, trefoile and rye,

which are regularly sown in their course of crops, and which are often double the quantity of the turnips.

Folding is universally and anxiously practised, as the manure upon which the corn principally depends: the value of it is reckoned from one shilling and six-pence to one shilling and eight-pence a head of the flock.

The other circumstances proper to note are, that the rams are turned into the flock about a fortnight after Michaelmas, sometimes later: and in doing this, ten or twelve will be let in promiscuously among 600 ewes, without the least attention or idea of separating the sixty best ewes to put to the best ram, in order that some part of the flock might be improving: on the contrary, the worst ewes may, in the common method, have the best ram; and the best ewes the worst ram. With such conduct, a farmer has good luck, if his flock is not in a state of degradation. The lambs are born pretty well woolled. They are weaned immediately preceding Ipswich fair, (August 22,) perhaps a month too late; nor is it uncommon to see the lambs, drawing the ewes to skeletons, the middle of August, with clover over the hedge in full blossom, *kept for seed*, instead of weaning the lambs in it.

The following *system* is the common *flock* management. The wether lambs sold; and the refuse ewe lambs, after drawing off that number to keep, which supplies the place of the *crones*, sold. The return, lamb and wool. Wether lambs of the best flocks, sell at from 14s. to 15s. in good times; ewes 10s. to 11s. but the average of all their lambs at Ipswich fair, in a common year, does not exceed 10s. 6d. The price of flock wool, for seven years, from 1778 to 1784, was 1l. 2s. 6d. the tod of 28lb. It kept rising till 1789, when it was 29s. in 1790, 32s. in 1791, 35s. and in 1792, 40s. Some flocks sold higher than these prices, but others were lower. It is a point of considerable consequence, to ascertain what is the annual *return* of a sheep in all the breeds of England; for many curious and important questions, relating not only to

the breeds of sheep, but also to the comparison of grass and arable, and of different rotations of crops, depend on it.— Mr. Macro's flock returned him 11s. and 3d. a head per annum for his whole flock of ewes. Prices have risen since; so that I am inclined to think, that *large* Norfolk sheep like his, which ranked among the finest flocks we had, may be calculated to pay in lamb, wool, and sold, 13s. a head, which will make just three-pence a week for the year round: but this must not be considered as the average of Suffolk flocks, but beyond it, for great numbers of lambs are sold at Ipswich, Horrenger, Harling, Coolege, and Newmarket fairs, from 6s. to 10s. each. It is probable, that all the sheep in the county, do not pay more than 10s a head; at least, this is the opinion of various practical farmers, who know the county well. And that it is a matter of serious national concern, to have so great a number of sheep, kept in a country so well adapted to that animal, for so small a return, will, I believe, be admitted by every one.

There is no other sheep system on a scale large enough to demand particular notice. In the richer parts of the county, most farmers keep a few of a changeable stock, bought and sold every year, either wether lambs kept a year, or a year and half, and sold to the butcher, or *crones* bought in autumn; the lambs sold fat early in summer, and the sheep at the Michaelmas following. Where this is done, it is not common to find them in greater numbers than in the proportion of five acres to a sheep, that is, 20 upon a farm of 100 acres. In all such cases, and speaking not of particular instances, but on a general average, if the farmer doubles his money within the year, he thinks himself pretty well paid; if he returns $2\frac{1}{2}$ for one, he is well paid; but good managers will sometimes treble their money. All such points, however, depend for their merit on the number kept.

Much might easily be added on the subject of shepherds, shearing, mode of folding, distempers, and other interesting objects:

objects: but I am giving not a dissertation on sheep, but the sketch of a county, and wish to confine myself to those points which are somewhat local and appropriated.

2. COWS.

The cows of Suffolk have long been celebrated for the great quantity of their milk, which I believe much exceeds, on an average, that of any other breed in the island, if quantity of food and size of the animal are taken into the account.

The country which is more peculiarly, but not exclusively, the seat of the dairies, is marked out by the parishes of Codenham, Ashbocking, Otley, Charlsfield, Letheringham, Hatcheston, Parham, Framlingham, Cransford, Brufyard, Baddingham, Sibton, Heveningham, Cookly, Linstead, Metfield, Wethersdale, Fressingfield, Wingfield, Hoxne, Broome, Thrandeston, Geslingham, Tenningham, Westrop, Wyverston, Gipping, Stonham, Creting; and again to Codenham, with all the places within being or tract of country of 20 miles by 12. The limits cannot be exact, for this breed of cows spreads over the whole county; but this space must be more peculiarly considered as their head quarters.

The breed is universally *polled*, that is, without horns; the size small; few rise, when fattened, to above 50 stone, (14 lb.) The points admired are, a clean throat, with little dewlap; a snake head; clean thin legs, and short; a springing rib and large carcass; a flat loin, the hip bones to lie square and even; the tail to rise high from the rump. This is the description of some considerable dairy-men. But if I was to describe the points of certain individuals, which were very famous for their quantity of milk, it would vary in several points; and these would be such as are applicable to great numbers. A clean throat, with little dewlap; a thin

clean

clean snake head ; thin legs ; a very large carcass ; rib tolerably springing from the center of the back, but with a heavy belly ; back-bone ridged ; chine thin and hollow ; loin narrow ; udder large, loose, and creased when empty ; milk-veins remarkably large, and rising in knotted puffs to the eye. This is so general, that I scarcely ever saw amongst them a famous milker that did not possess this point. A general habit of leanness, hip bones high and ill-covered, and scarcely any part of the carcass so formed and covered as to please an eye that is accustomed to fit beasts of the finer breeds. But something of a contradiction to this, in appearance, is, that many of these beasts fatten remarkably well, the flesh of a fine quality ; and in that state will *feel* well enough to satisfy the touch of skilful butchers. The best milkers I have known have been either red, brindle, or yellowish cream-coloured.

The quantity of milk given is very considerable indeed. There is hardly a dairy of any consideration in the district, that does not contain cows, which give, in the height of the season, that is, in the beginning of June, eight gallons of milk in the day ; and six are common among many for a large part of the season. For two or three months a whole dairy will give, for all that give milk at all, five gallons a day on an average, if the season is not unfavourable, which, *for cows of this size*, is very considerable. When the quantity of milk in any breed is very great, that of butter is rarely equal. It is thus in Suffolk ; the quantity of milk is more extraordinary than that of the butter. The average of all the dairies of the district may be estimated at three firkins and three-fourths of a whey of cheese *per cow*, clear to the factor's hands, after supplying the consumption of the family. The hogs are very generally laid at a guinea *per cow*, and a calf, at a fortnight old, half-a-guinea.

	L. S. D.
3 firkins, at 38s. average price of last seven years,	5 14 0
½ whey, at 36s.	1 7 0
Hogs,	1 1 0
Calf,	0 10 6
	<hr/>
	£ 8 12 6
	<hr/>

About 2s. or 3s. may be deducted from this on account of the calves reared to keep up the stock; and if something more is struck off on account of a few ill-managed dairies, that do not properly come into the account, it may reduce it to eight guineas. Instances are numerous that raise it higher. The cows of a farm at Aspal have paid more than once 8l. per cow, when butter and cheese were at 32s. Another of 9 cows produced 31 firkins. The butter and cheese of a farm of 90l. a year, let nearly at its value, produced (price at 32s.) 140l. and there are 40 acres under the plough. A farm of 185l. a year, that has near 100 acres of arable, produced 121 firkins of butter, and 65 wheys of cheese. In another instance, 20 cows made 80 firkins, besides cheese; and another, in which the cows made 4 firkins of butter each, but no cheese. The common calculation is, that a cow in milk eats in summer two acres of grass; and that on an average of twenty miles by twelve, there is one cow to every five acres of the whole country.

In regard to the expences, the dairy-maid earns to the full amount of her wages, by spinning hemp or wool; and as she is fed pretty much from the dairy, the charge is very small. Interest of the capital invested in the cow is 7s. 6d. or 8s. as much more for losses. Fuel, and wear and tear, add something. Hay is from one-half to three-fourths of a ton per cow; or, as they calculate by expence to the farmer, and not value in the market, 15s. The profit left much exceeds what

what any other application of the soil would yield, which, though good for cows, is not rich enough for fattening oxen beneficially.

In feeding these cows, the most singular circumstance is, the use of cabbages, an article of culture which gradually established itself within about twenty-five years past, each farmer usually having a small field merely for the use of his cows; and turnips are cultivated on a small scale for the same purpose. Opinions are much divided concerning the profit of the practice. Carting off these crops on such wet land is very prejudicial to the succeeding corn; consequently, those who make corn the first object, do not approve them; but the more intelligent men, who consider the dairy as the principal point to attend to, approve cabbages.* The value of an acre rises from 4l. to 7l. In respect to their utility for cows, there is but one opinion. Every one agrees, that cabbages and straw are by far better food for milch cows than any quantity of hay; and a circumstance that proved the goodness of the food for butter, was, the veal carts, which go regularly from this district to London, taking large quantities of butter, which was sold and eaten as hay-butter, as long as cabbages remain sound; but, when they rot, there is an end of this laudable deceit, as no management can do the same thing with turnips.

Another circumstance in the management of their cows deserving notice, is, that of tying them up in the fields, without house, or shed, or roof to cover them. With rails and stakes they form a rough manger; and the cows are tied to posts about three feet from each: at their heads is a screen of faggots. Litter is regularly given, and the dung piled up in a wall behind. They find this better than letting them range at will, for cows before calving; and that the shelter of the

F hedge

* This question is fully examined in *Annals of Agriculture*, vol. 5. p. 196.

hedge and dung, and the warmth of their bodies, are enough, without any cover.

The greatest fault to be found with their management is, the carelessness with which they breed. There is no such thing in the country as a bull more than three years old; two, years the common age. The consequence of this is inevitably, that, before the merit can be known of the stock gotten, the bull is no more. It must be obvious, that such a system, precludes all improvements. It springs very much from the want of the spirit of breeding getting into this country; but, this cannot originate here, while the price of a bull is 4l. or 5l. If a very attentive breeder was to arise, who bred merely for quantity of milk, and procured a breed better than any of his neighbours, and could attain the price of a guinea for covering a cow, something would gradually be done; for this purpose, there should be premiums given, or some other method taken, to excite a spirit of emulation.*

3. HORSES.

The Suffolk breed of horses, is no less celebrated than the cows. They are found in most perfection, in the district of country that is upon the coast, extending to Woodbridge, Debenham, Eye, and Loestoff. The best of all were found some years ago upon the *Sandlings* south of Woodbridge and Orford. Amongst the great farmers in that country, there was, forty years ago, a considerable spirit of breeding, and of drawing team against team for large sums of money. Mr. Mays of Ramsholt-dock was said to have drawn fifteen horses for 1500 guineas. It is to be regretted, that such a spirit of emulation was lost. I remember seeing many of the old breed, which were very famous, and, in some respects, an uglier horse could not be viewed; sorrel colour;

* The quantity of butter, supposed to be sent from Suffolk to London, annually, is about 40,000 firkins.

lour; very low in the fore-end; a large ill-shaped head, with slouching heavy ears; a great carcass and short legs; but short-backed, and more of the *punch* than the Leicestershire breeders will allow. These horses could only walk and draw; they could trot no better than a cow. But their power in drawing was very considerable. Of late years, by aiming at coach horses, the breed is much changed to a handsomer, lighter, and more active horse. It is yet an excellent breed; and if the comparison with others, and especially the great black horse of the midland counties, be fairly made, I have no doubt of their beating them in useful draft, that of the cart and the plough. But the fair comparison is this: let a given sum be invested in the purchase of each breed; and then, by means of which, will a thousand tons of earth be moved to a given distance by the smallest quantity of hay and oats? It is the oats and hay that are to be compared, not the number or size of the cattle. The present price of these horses is high; good geldings, of five or six years old, selling at thirty to forty guineas. A spirited and attentive breeder, upon a farm of 1000 or 1500 acres of various soils, that would admit two or three stallions, and thirty or forty capital mares, might, by breeding in and in, with close attention to the improvements wanted, advance this breed to a very high perfection, and render it a national object: but then, query, whether the same expence and attention would not produce a breed of cattle that would, by training, supersede the use of horses? Of all the branches of live stock, perhaps nothing is in such an imperfect state as working oxen; in every thing that concerns them, we are really in the infancy of agriculture.

4. HOGS.

Of the hogs of Suffolk I shall only observe, that the short white breed of the Cow district has very great merit; well

made, thick short noses, small bone, and light offals; but not quite so prolific as some worse made breeds.

S. RABBITS.

There are many warrens in Suffolk, especially in the western sand district; but within the twenty last years, great tracts of them had been ploughed up, and converted to the much better use of yielding corn, mutton, and wool. From this circumstance, has arisen the great increase of the price of these furs. Thirty years ago, the skins were at five shillings a dozen; they gradually rose to twelve shillings; but, since the commencement of the present war, have fallen to seven shillings, which may be considered as an event favourable to agriculture; for improvements will, without question, be the consequence. It is very difficult to gain a satisfactory knowledge of the acreable produce of land, in this application of the soil; for the warrens are more commonly estimated than measured. There is one near Brandon, which is said to return above forty thousand rabbits in a year. Estimating the skin at sever. pence, and the flesh at three pence, (in the country it sells at four pence, and five pence), it makes ten pence a head; and if ten are killed annually, per acre, the produce is eight shillings and four pence; which may not be far from the fact, on some soils; but variations are very considerable. The expences are lessened, since faggots, which the rabbits peel, have been partly substituted in lieu of much of the hay, which was once thought necessary for them in snows.

S E C T. XIV.

OF SUNDRY ARTICLES OF CULTIVATION.

CARROTS.

THE culture of carrots in the *Sandlings*, or district within the line formed by Woodbridge, Saxmundham, and Orford, but extending to Leiston, is one of the most interesting objects to be met with in the agriculture of Britain. It appears from Norden's Surveyor's Dialogue, that carrots were commonly cultivated in this district two hundred years ago, which is a remarkable fact, and shews how extremely local such practices long remain, and what ages are necessary thoroughly to spread them. For many years, (generally till about six or seven past) the principal object in the cultivation, was sending the carrots to London market by sea : but other parts of the kingdom having rivalled them in this supply, they have of late years been cultivated chiefly for feeding horses ; and thus they now ascertain, by the common husbandry of a large district, that it will answer well to raise carrots for the mere object of the teams.

Not to enter particularly into a cultivation, which I have already described in the Annals of Agriculture, I shall only note here, that the most approved method is, to leave a barley stubble (which followed turnips) through the winter, and about Ladyday, to plough it by a double furrow as deep as may be, and to harrow in 5 lb. of seed per acre. About Whit-suntide they hoe for the first time, thrice in all, at the expence of 18s. an acre. The produce on good land, of 10s. to 15s. an acre, 400 to 500 bushels, but sometimes 800 are gained ; on poorer soils, less ; even to 200 bushels. They are left in the field during winter, and taken up as wanted ; by which-

which means, in severe winters, they suffer by the roots rotting, unless well covered by snow. In feeding, they give about eighty bushels a week to six horses, with plenty of chaff, but no corn ; and, thus fed, they eat very little hay. Some farmers, as the carrots are not so good at Christmas as in the spring, give forty bushels, and four of oats, a week, in the fore part of the winter ; but in the spring eighty, and no corn. By long experience they find, that horses are never in such condition as on carrots, and will, on such food, go through all the work of the season better than on any other in common use ; fed only with corn and hay, even with a great allowance, they would not be in near such order. If oats and carrots are given at the same time, they leave the oats, and eat the carrots ; but for horses that are rode fast, they are not equally proper. They begin to use them before Christmas, and continue it sometimes till Whitsuntide, those used in the latter part of the season being taken up and housed, to have the land clear for sowing barley.

There is scarcely an article of cultivation in any county of England, that more demands attention than this of carrots in Suffolk, for it is applicable to all sands, and dry friable sandy loams, of which immense tracts are found all over the kingdom, but this application of them unknown.

CABBAGES.

The culture of cabbages, the use of which for cows I have already mentioned, is another article which adds not inconsiderably to the agricultural merit of Suffolk. The most approved method is, to sow the seed in a very rich bed, early in the spring; to prepare the land by four ploughings, the last of which buries an ample dunging, and forms the land a second time on three-feet ridges, along the crown of which the plants are set in a rainy season, about Midsummer. They are kept clean by horse and hand-hoing. The produce

ries to above thirty tons *per acre*. A gentleman near Bury carried this husbandry very near to perfection, and on so large a scale as to seventy acres in a year; but he sowed more than half the seed in August, and pricked out at Michaelmas; planting in the field the first heavy rains in May: his crops always great, and their use in fattening oxen distinguished.

HOPS.

At Stowmarket and its vicinity, there are about 200 acres of hops, which deserve mention as an article which is not generally spread through the kingdom. The average produce, 6 cwt. at 5*l.* or 30*l.* *per acre*, and expence in labour only 7*l.*

WOODS.

The woods of Suffolk hardly deserve mentioning, except for the fact, that they pay in general but indifferently. By cuttings at ten, eleven, or twelve years growth, the return of various woods, in different parts of the county, have not, on an average, exceeded 9*s.* *per acre per annum*; the addition to which sum, by the timber growing in them, but rarely answers sufficiently to make up for the difference between that produce, and the rent of the adjoining lands. There cannot be a fact more clearly ascertained, than that of every sort of wood being at a price too low, to pay with a proper profit for its production; and nothing but the expence and trouble of grubbing, prevents large tracts of land, thus occupied, from being applied much more beneficially.

HEMP.

HEMP.

The district of country, in which this article of cultivation is chiefly found, extends from Eye to Beccles, spreading to the breadth of about ten miles, which oblong of country may be considered as its head quarters.

It is in the hands of both farmers and cottagers; but it is very rare to see more than five or six acres in the occupation of any one man. With cottagers, the more common method is, to sow it every year on the same land: there is a piece at Hoxne which has been under this crop for seventy successive years. The soil preferred, is, what is called in that district, *mixed land*, that is, sandy loam, moist and putrid, but without being stiff or tenacious; in one word, the best land the country contains, and does well, as may be supposed, on old meadow and low bottoms near rivers. They manure for it with great attention; so that it may be taken as a maxim, that hemp is not often sown without this preparation: of dung and moulds, twenty-five three-horse loads per acre; of dung alone, sixteen loads. This is done directly after wheat sowing is finished.

The tillage consists in three earths, with harrowing sufficient to make the soil perfectly fine; and it is laid flat, with as few furrows as possible.

Time of sowing, from the middle to the end of April; but will bear being sown all May. It is often found, that the early sown yields hemp of the best quality.

Quantity of seed, eleven pecks per acre, at the price of one shilling to two shillings a peck, generally from sixteen to eighteen pence. Much is brought from Downham, and the fens; the seeded hemp is not so good by eighteen pence or two shillings the stone.

No weeding is ever given to it, the hemp destroying every other plant.

It is pulled thirteen or fourteen weeks after sowing; the wetter the season the longer it stands; and it bears a dry year better than a wet one: make no distinction in pulling, between the male and female; or flimble and seed hemp, as denominated in some places. In the Cambridgeshire fens they are frequently separated, which may arise from their hemp being coarser, and the stalk larger. The price of pulling is one shilling a peck of the seed sown, or eleven pence an acre, and beer; but if it comes in harvest the expence is higher. It is tied up in small bundles called *baits*.

It is always water *retted*; clay pits preferred to any running water, and cleaned out once in seven or eight years. An acre of three small waggon loads are laid in one *bed*. They will water five times in the same hole; but it is thought by some too much. If necessary to wait, they pull as the hole is ready, not chusing to leave it on the land after pulled.

It is generally four days in the water, if the weather is warm, if not five; but they examine and judge by feeling it. The expence is twelve to fifteen shillings an acre.

The grafting requires about five weeks; and if there are showers, constantly turned thrice a week; if not, twice a week. This is always on graft land or layers. It is done by women; the expence ten shillings an acre. It is then tied up in large bundles of eight or ten *baits*; and carted home to a barn or house to break directly.

Breaking is done by the stone, at one shilling. There are many people in the district who do it, and earn fifteen or sixteen pence a day, and beer. The offal is called hemp *sheaves*, makes good fuel, and sells at two pence a stone.

It is then marketable, and sold by sample at Diss, Harling, Bungay, &c. price 5s. 6d. to 8s. a stone; generally 7s. 6d. This year it will be 10s.

The buyer heckles it, which is done at 1s. 6d. a stone; he makes it into two or three sorts: *long strike*, *short strike*, and *pull tow*. Women buy it and spin it into yarn, which they

carry to market, and sell at prices proportioned to the fineness. This the weaver buys, who converts it into cloth, which is sold at market also. The spinners earn better and more steady wages than by wool: a common hand will do two skeins a day, three of which are a clue, at nine pence; consequently she earns six pence a day; and will look to her family and do half a clue. Nor is the trade, like wool, subject to great depressions, there being always more work than hands; the consequence of a brisk demand. They begin to spin at four or five years old: it is not so difficult to spin hemp as wool; but best to learn with the *rock*. For very fine yarn one shilling a clue is paid for spinning. About Hoxne, the yarn is half whitened before weaving; but in other places, weave it brown, which is reckoned better. The weavers of fine cloth earn 16s. or 18s. a week, middling 10s.*

The fabrics wrought in this country from their own hemp have great merit. They make it to 3s. 6d. and 4s. 6d. a yard, yard wide, for shirts: and I was shewn sheets and table linen, now quite good, after twenty years wear. Huckabacks, for table linen, 13d. to 7s. a yard, ell wide.

The produce of an acre may, on an average, be reckoned forty-five stones, at 7s. 6d. Some crops rise to fifty-five, and even more; and there are bad ones so low as twenty-five. If sold on the ground as it stands, generally 1s. a rod, or 8l. an acre.

The account of an acre may be thus estimated:

EXPENSES.

* Many interesting circumstances relating to hemp, in Suffolk, may be found in *Annals of Agriculture*, vol. 10, p. 377.

EXPENSES.

Rent, tythe, and rates,	- - - - -	£ 1 10 0
Manure, twenty-five loads, at 1s. 6d.	- - - - -	1 17 6
Three earths, at 4d. harrow included,	- - - - -	0 12 0
Seed,	- - - - -	0 16 6
Sowing,	- - - - -	0 0 6
Pulling,	- - - - -	0 12 10
Watering,	- - - - -	0 12 0
Grafting,	- - - - -	0 10 0
Breaking,	- - - - -	2 12 6
Carriage and delivery,	- - - - -	0 5 0
		<hr/>
		£ 9 8 10
		<hr/>

PRODUCE.

Forty-five acres at 7s. 6d.	- - - - -	£ 16 17 6
Expences,	- - - - -	9 8 10
Profit,	- - - - -	£ 7 8 8

All accounts of this sort must be received with due allowances for many variations. The preceding was taken at Hoxne; but, at Beccles (where, however, the quantity cultivated is not equally great) a very different mode of calculation takes place, and rent is valued.

EXPENCE.

Rent, tythe, and rates,	- - - - -	£ 4 0 0
Manure,	- - - - -	3 0 0
Carry over,	- - - - -	£ 7 0 0

Brought over,	-	-	-	-	£	7	0	0
Tillage,	-	-	-	-		1	4	0
Seed, twelve pecks,	-	-	-	-		1	16	0
Pulling,	-	-	-	-		0	19	0
Watering,	-	-	-	-		0	12	0
Grafting,	-	-	-	-		0	10	0
Breaking,	-	-	-	-		2	10	0
					£	14	11	0

PRODUCE.

Fifty stone, at 8s.	-	-	-	-	£	20	0	0
Expences,	-	-	-	-		14	11	0
Profit,	-	-	-	-		£	5	9

The common method is to sow turnips on the land immediately after the hemp is cleared: this is for producing, among the little occupiers, some food for a cow and the family. With good management, one ploughing and one hoeing will carry them to the value of 30s. But an evil arising from the practice is, that the land must for the next crop be mucked in the spring, when carting does more damage. When corn is sown after the hemp, it is wheat; and these are the best crops in the country, as nothing is esteemed to clean land like this plant. After the wheat, barley or oats, and this great also.

Finding the profit so great, I demanded why the culture did not increase rapidly? I was answered, that its coming in the midst of harvest was embarrassing, and that the attention it demanded in every stage of its progress was great; being liable to be spoiled if the utmost care was not per-

It is considered, and with great justice, throughout the district, to be of infinite consequence to the country; and especially to the poor, who are entirely supported by it, and are now earning six pence a day by spinning, with more ease than three pence is gained on the other side the county by wool.

The culture has increased considerably in the last ten years.

S E C T. XV.

INCLOSING.

HAD the time allotted by the Board allowed it, I would have carefully examined every parish in the county that has been inclosed by act of parliament. To gain the necessary intelligence by correspondence is not easily done, as I have found; but when the sketch, which these papers contain, is sent to individuals, not with my authority, but the more respectable application of the Board itself, they may be induced to communicate the circumstances desired. I shall insert here one case, which will shew what is most wanted.

PARISH OF CONEY WESTON IN SUFFOLK,

Contains about 1200 acres; the rent about 800*l.* Inclosed in 1777, by act of parliament.

R.E.

REGISTER.

	Births.	Burials.		Births.	Burials.
1761,	6	6	1778,	4	3
2,	4	0		9,	3
3,	1	6	80,	6	5
4,	2	4	1,	5	5
5,	3	3	2,	4	6
6,	6	2	3,	5	3
7,	3	2	4,	4	0
8,	3	1	5,	7	5
9,	2	4	6,	6	4
70,	8	3	7,	9	1
1,	0	1	8,	3	3
2,	4	2	9,	13	4
3,	4	5	90,	6	4
4,	3	3	1,	6	4
5,	3	2	2,	8	4
6,	6	2	3, †	10	2
---	---	---	---	---	---
58	46		99	56	
46	---		56	---	
32 Increase.			43 Increase.		

Rents doubled since the inclosure; and the farmers at the same time far richer than before.

Poor-rates 1s. 3d. in the pound, rack rent.

21 houses, poor-house included.

36 families, containing 212 souls.

SECT.

† Year ending June 3, at the Generals.

SECT. XVI.

IMPLEMENTS.

WAGGONS are universal in the county, the modern and greatest of all improvements, that of substituting one horse carts or cars, being, generally speaking, unknown; the usual load is ten quarters of wheat to four horses, on turnpikes; and five on by-roads.

Carts are much too heavy and ill-constructed, they usually contain from 36 to 40 bushels, and are drawn by three, four, or five horses, according to weight of load.

Horse rake. This is common: it is drawn by one horse, for clearing spring corn stubbles, instead of the corn dew rake drawn by a man. It is a very good tool; but to substitute the sickle, and bind in sheaves; is a much superior practice.

The Drill Roller. This tool, invented in Norfolk, gains ground in Suffolk. Its object is to save the expence of dibbling, by making little channels, $4\frac{1}{2}$ inches asunder, across a clover lay after ploughing; the wheat seed is then sown broad cast, and is covered by a bush harrow. For light soils, that require pressure, it is a very good implement, but inferior to dibbling. Another use, to which it is applicable, is that of pulverizing a fallow on stiff lands in a dry season, in which it is incomparably effective, more so than any spike roller I have seen.

SECT. XVII.

LABOUR.

THE variations in the price of labour in the county, are not considerable : it may be stated generally (beer included) at 1s. 4d. in winter, 1s. 6d. in summer, and 2s. 10d. in harvest. Call winter twenty-nine weeks, harvest five, and summer eighteen ; this will make the year's earnings, 23*s.* 18*d.* A woman earns 6d. and the wages of men servants rise from 5*l.* to 10*l.*

These are prices by the day ; but the great mass of work in this county is done by the *piece*, in which earnings are usually much higher. At clay cart, which goes on through winter, the earnings are pretty generally 10*s.* a week ; and but little work is taken, at that season, for less than 9*s.* In summer, the rates are higher. In regard to the rise in labour, it is considerable. In my own vicinity, I remember it to have risen in 20 to 25 years, from 1*s.* in winter, to 1*s.* 4*d.* a day ; and in harvest from 10*s.* to 12*s.* and of late to 14*s.* a week. There are parts of the county, where the rise has not been equally great.

SECT. XVIII.

PROVISIONS.

THROUGHOUT the county, the average of mutton, beef, and veal, to take no *weighing* meat, on contract for the

whole year, may be stated at 5d. per pound. But mutton usually $\frac{1}{2}$ d. per lb. dearer than beef; and the coarse joints of the latter, bought *in the afternoon*, may be had in general by poor house-keepers, at 2d. or $2\frac{1}{2}$ d. the lb. Pork 5 $\frac{1}{2}$ d. Butter---salt, 8 $\frac{1}{2}$ d. 9d. and 9 $\frac{1}{2}$ d.; fresh, 10d. and to 1s. at scarce seasons. Cheese, 5d. but Suffolk, 3 $\frac{1}{2}$ d. and 4d. The price of all these is risen considerably in 20 years. Bread, 1d. and not risen.

SECT. XIX.

OF THE PRINCIPAL IMPROVEMENTS YET WANTING IN THE COUNTY.

AS well cultivated as Suffolk undoubtedly is, yet are there several points in which the management of her farmers might receive great and essential improvement. These principally consist in,

1. Irrigation.
2. Burning.
3. In the general management of grass land.
4. In sheep walks.
5. In rejecting fallows.
6. In live stock.

I. IRRIGATION.

Of all the improvements wanting in this county, there is not one so obvious, and of such importance, as watering meadows. The rivers, streams, and brooks, in every part, are numerous; few countries are better watered with small streams; yet is there not a well-watered meadow in the

H county :

county: at least, not one to my knowledge. Some individuals have been so struck with the benefit of partial flooding by accident, that they have thrown water over meadows; but never have done it in a manner to be highly beneficial, and usually without any attention to take it off again. But of all improvements, this is perhaps the most unquestionable and important. To view large tracts of poor and unproductive arable land, below those levels in which water might be made to flow, is a spectacle that wounds every feeling of a man that looks about him with the eye of an irrigator; and yet this horrid sight is to be found almost in every parish of the county, at least in the vicinity of every stream, and in lands kept in the hands of gentlemen who call themselves farmers, and are really fond of husbandry. It would be idle to enter at large into the means of effecting this improvement. It is understood and practised, in great perfection, in many of our counties, and men to perform the operation, easy to be had.

2. BURNING.

The application of fire is as useful and effective to land as that of water. There are in Suffolk many thousands of acres of poor, wet, cold, hungry pastures and neglected meadows, over-run and filled with all sorts of rubbish, and abounding with too few good plants to render their improvement easy without breaking up: all such should be pared and burnt; not to keep under the plough to be exhausted and ruined, which is infallible, and the land left in a worse state, beyond all comparison, than it was before; but to be laid *immediately* to grass, that is, as soon as the course of husbandry necessary will admit. This ought to be without variation, under any pretence whatever, in this course of crops. 1. Pare and burn for turnips, which feed on the land by sheep. 2. Oats; and with these oats the grass seeds sown.

The

The oats and the turnips would more than pay all the expence of a previous hollow draining, should that be necessary, of the paring and burning, and every other charge ; and the change, from a very bad pasture to a very fine one, would all be neat profit. The tenant would be greatly benefitted, and the landlord would find his estate improved, if let, as farms ought to be let, with an absolute exclusion of selling a lock of hay under any pretence whatever.

The dry rough sheep walks covered with ling, furz, broom, &c. should also be broken up in the same manner ; but universally to be laid down again with the grasses suitable to the soil and to sheep. On weak thin stapled land, two crops of corn, after paring and burning, would be pernicious. *Perhaps* they might be well laid down without a single one, which would be so much the better.

3. GRASS LAND.

The arable lands of the county are so much better managed than the grass, that an improvement in the latter would be attended with great private and national advantage. Our sister county of Norfolk is, if possible, yet worse in this respect. Clearing away of bushes, and other rubbish, is not commonly done ; mole and ant hills rare'y cut ; drains made only in arable fields ; and as to manuring, I have very seldom seen any laid upon grass land *rented*. The reason of this general neglect results not from inattention, but an erroneous calculation. In the farmer's estimate, and he is right, there will be a considerable benefit remaining to the landlord at the end of a lease, from all improvements of grass land ; whereas upon arable there may not be one penny left from the expenditure of a pound. This is true, but the conclusion, that what the landlord gains is at the expence of the tenant, is a very great error ; both may gain greatly, but

not at the expence of each other. One reason why improvements of grafts are so rarely seen, and also why most tenants would, if their landlords allowed it, plough up every acre of grafts on their farms, results, in some measure, from their making no fair experiments of the value, which is not to be done in ordinary rough land, except by sheep only. If they would lock into such a field a certain lot of sheep, suppose two, two and a half, or three to an acre, and keep them there the whole year, registering the hay given in deep snows, and on no account folding those sheep on other lands, (as in that case no improvement results from sheep-feeding) they would find the return of such lands not contemptible ; and if they continued the trial for a few years, they would see such lands constantly improving ; so that the more sheep were kept, the more might be kept in future. These are experiments very easily made with a quiet breed, and there are not many more important ones.

4. SHEEP-WALKS.

I have already mentioned the profit of paring and burning these : at present I would only observe, that many farmers think these desart wastes necessary for their flocks, which is a most egregious error. They are undoubtedly very useful ; and, if they were converted to corn, the number of sheep kept upon a farm would decline ; but good grafts adapted to the soil would be abundantly more productive for the flock. Whoever has viewed the immense wastes that fill almost the whole country from Newmarket to Thetford, and to Gastrop-gate, and which are found between Woodbridge and Orford, and thence, one way, to Saxmundham, not to mention the numerous heaths that are scattered every where, must be convinced, that their improvement *for grafts* would enable the county to carry many thousands of sheep more than it does at present.

5. FALLOWS.

5. FALLOW.

There is no question at all of the merit of fallowing, when compared with bad courses of crops. If the husbandry is not correct in this respect, the fallowist will certainly be a much better farmer than his neighbours: but there are courses which will clean the foulest land as well as any summer-fallow, by means of plants, which admit all the tillage of a summer-fallow. Cabbages are not planted before June or July: winter tares admit three months tillage, if tillage is wanted. Beans well cultivated will preserve land clean, which has been cleaned by cabbages. And, in any case, two successive hoeing-crops are effective in giving positive cleanliness. These observations are not theory, they are practice; and it is high time that mankind should be well persuaded that the right quantity of cattle and sheep cannot be kept on a farm, if the fallows of the old system are not made to contribute to their support.

6. LIVE STOCK.

The cows and horses of the county are already so good, that the only attention they want is that of selection for the purpose of breeding in and in. A skilful attentive occupier of a large farm, who carried these breeds to the perfection they admit of, would find his account greatly in it, and raise the prices of these stock high enough to excite the competition, without which nothing can be perfected.

But, in the case of sheep, the point is very different. With them, a foreign cross is necessary; as much so for the profit of the farmer as for the interest of the nation. The Norfolk breed certainly have merit; but merit, purchased at the expence of keeping only half a fair stock, becomes something very different from merit. The South Down and Bakewell's

Bakewell's breed are introduced, and will, without doubt, make their way.

S E C T. XX.

STATISTICAL DIVISION OF THE PRODUCE OF LAND IN SUFFOLK.

I HAVE often reflected on the most simple method of bringing into the shortest compass possible, a view of the gross produce of the soil diffusing itself through the variety of classes most nearly concerned in the culture, receipt, and consumption of the earth's products. What may be called, without impropriety, political agriculture, depends altogether on this division being clearly understood. Volumes have been written diffusely upon the subject, and have perhaps failed in utility in proportion to their bulk : but if tables, on a plain and simple plan, could be constructed, which would present the leading facts in a clear view, the road to this branch of knowledge, so unquestionably important, would be greatly shortened. Enquiries, however, of this nature must be long pursued, and by many persons, before any thing near perfection is to be attained. I present the following sketch to the Board, as an attempt which may in time be ameliorated, in more able hands, into a general view of the kingdom, which shall contain, in a very small space, abundance of useful information.

SUFFOLK RICH LOAM.

STATISTICAL DIVISION OF THE PRODUCE OF AN ACRE
OF WELL MANAGED ARABLE LAND.

Rent 15s.

Farmer's capital 5l. per acre.

Course of crops:

1. Turnips,
2. Barley,
3. Clover,
4. Wheat.

GROSS PRODUCE.

	L.	S.	D.
1. Turnips, keeping 6½ sheep 26 weeks, at 3d.		3	0 0
2. Barley, 4 qrs. at 21s. [*]	-	4	4 0
3. Clover, 7 sheep 26 weeks, at 3d.	-	3	5 6
4. Wheat, 3 qrs. at 42s. [†]	-	6	6 0
Divide by 4 years,	<u>£</u>	14	15 6
Per ann.	<u>£</u>	3	13 10

THE ABOVE DIVIDED AMONG

The landlord, - £0 12 0 net rent,

The state, - 0 2 6 land tax,

Artizans, - 0 0 6 repairs,

0 15 0 gross rent.

Industrious poor, - 1 1 0 labour,

Indigent poor, - 0 3 6 poor rates,

Artizans and sundries, 0 0 6 other rates,

Artizans, - 0 2 0 wear and tear,

Carry over, - - £3 3 0

* For the price of wheat and barley in Suffolk, see Annals of Agriculture
vol. 15. p. 83. † Ibid.

Brought over,	3	2	0	
The church,	-	-	0	4
The farm,	-	-	0	7
Ditto,	-	-	0	10
The farmer,	-	-	0	10
				<hr/>
			£	3 13 10
				<hr/>

Produce, - - - - - £3 13 10

DEDUCT

Seed,	-	-	0	7	0	}
Team,	-	-	0	10	0	
Half wear and tear,	-	-	0	1	0	
Five-sixths of labour,	-	-	0	17	6	
Three-fourths of poor rates,	-	-	0	2	6	
For market,	-	-	-	£	1 15 10	<hr/>

In order to form such a table as this, it is necessary to simplify the business, more than it admits in every case, in fact. The clover is supposed to be the food of sheep alone; but in common practice, the horses, hogs, cows, and, in general, all the stock of a farm consume it; but for the great objects of such an enquiry, to substitute sheep, does not affect the principles of the calculation.

To discover what portion of the produce comes free to market, is always an enquiry of considerable importance; for if the subject was thoroughly analized, it would probably be found, that that system of rural economy, whether respecting the size of farms or the conduct of the soil, would be found politically best, which sent the largest *surplus* to market. In order to discover what this is, deductions should

be made of that portion of the produce consumed by the necessary neighbours of the farmer in the village, including a very large portion of the labour, a smaller proportion of poor rates, and a still smaller one of the wear and tear. All the seed, and (but not with positive accuracy) the team. The farmer's personal consumption should also be deducted; but this is more difficult to estimate. When the consumption of these several classes is deducted, the remainder forms that portion of the produce which may be said to go *free* to market, and forms the great basis which supports towns and manufactures.

STRONG LOAM.

STATISTICAL DIVISION OF THE PRODUCE OF AN ACRE OF ARABLE LAND IN COMMON MANAGEMENT.

Rent 15s.

Farmer's capital 5l. an acre.

Course of crops:

1. Fallow dunged for,
2. Wheat,
3. Barley,
4. Clover,
5. Wheat.

GROSS PRODUCE.

				L.	S.	D.
2.	Wheat, 3 qrs. at 42s.	-	-	6	6	0
3.	Barley, 3½ qrs. at 21s.	-	-	3	13	6
4.	Clover, 6 sheep 26 weeks, at 3d.	-	-	1	19	6
5.	Wheat, 2½ qrs. at 42s.	-	-	5	15	6

Divide by 5 years, £17 14. 6

Per ann. - £3 10. 10

(66)

THE ABOVE DIVIDED AMONG

The landlord,	-	£0 12 0	net rent,
The state,	-	0 2 6	land tax,
Artizans,	-	0 0 6	repairs.

		0 15 0	gross rent.
Industrious poor,	-	0 18 0	labour,
Indigent poor,	-	0 3 6	poor rates,
Artizans and sundries,	-	0 0 6	other rates,
Artizans,	-	0 2 0	wear and tear,
The church,	-	0 4 0	tythe,
The farm,	-	0 8 3	feed,
Ditto,	-	0 12 0	team,
The farmer,	-	0 7 7	

£3 10 10

Produce, - - - - - £3 10 10

DEDUCT AS BEFORE,

Seed, team, five-sixths labour, three-fourths poor rates, and one-half wear and tear, } 1 18 10

For market, - - - - £1 12 0

This table explains the circumstance to which I have already adverted, the profit of cultivating dry soils on comparison with wet ones; and it shews, that while fallows are retained, neither the produce for the public, nor the profit for the farmer, can be carried to the height they are capable of.

If, instead of this fallow course, a different one be substituted, such as, 1. cabbages; 2. oats; 3. clover; 4. beans; 5. wheat; the produce and advantage would probably be found to become greater.

SAND.

STATISTICAL DIVISION OF THE PRODUCE OF AN ACRE
OF POOR ARABLE.

Rent 5s.

Farmer's capital £1. 10s. an acre.

Course of crops:

1. Turnips,
2. Barley,
3. and 4. Trefoil and rye,
5. Ditto, and bastard fallow.
6. Rye.

CROSS PRODUCE.

	L.	s.	d.
1. Turnips, 4 sheep 24 weeks, at 3d.	-	1	4 0
2. Barley, 2½ qrs. at 21s.	-	2	12 6
3. Clover, 3 sheep 26 weeks, at 3d.	-	0	19 6
4. Ditto, 2 ditto ditto,	-	0	13 0
5. Ditto, 2 ditto, 12 ditto ditto,	-	0	6 0
6. Rye, 1½ qr. at 21s.	-	1	13 0

Divide by 6 years, £7 8 0

Per ann. - £1 4 8

THE ABOVE DIVIDED AMONG

The landlord,	-	£ 0 4 4	net rent,
The state,	-	0 0 6	land tax,
Artizans,	-	0 0 2	repairs.

		0 5 0	gross rent.
Industrious poor,	-	0 4 0	labour,
Indigent poor,	-	0 0 10	poor rates,
Artizans, and sundries,	-	0 0 2	other rates,
Artizans,	-	0 0 9	wear and tear,
The church,	-	0 1 0	tythe,
The farm,	-	0 2 6	feed,
Ditto,	-	0 2 0	team,
The farmer,	-	0 8 5	

£ 1 4 8

Produce, - - - - - £ 1 4 8

DEDUCT AS BEFORE,

Seed, team, proportion of labour, rates, }
and wear and tear, } 0 8 10

For market, - - - - - £ 0 15 10

It is proper to explain here, and the observation is applicable to all these estimates, that the proportion assigned to the farmer concerns no farm in general, but merely land precisely thus managed. If any of the expences run higher, or the products lower, that proportion is of course affected. The general profit of his business has no place in this enquiry, which is confined merely to such fields as are cultivated in the course assigned, and under the circumstances minuted. It is, however.

ever, of high importance, that his interests should flourish; which, in very many cases, they do not sufficiently, either from his expences being too high, or his products too low.

GRASS APPLIED TO COWS.

STATISTICAL DIVISION OF THE PRODUCE OF AN ACRE OF GRASS LAND.

Rent 16s.

Farmer's capital 1 gl. an acre.

Three acres supposed to carry a cow through the year.

GROSS PRODUCE.

	L. S. D.
Of a cow,	<u>8 5 0</u>
Divide by 3 years,	<u>£ 2 15 0</u>

THE ABOVE DIVIDED AMONG

The landlord, - - £ 0 13 0 net rent,

The state, - - 0 2 9 land tax,

Artizans, - - 0 0 3 repairs.

0 16 0 gross rent.

Three years, 2 8 0 Ditto.

Industrious poor, - - 1 0 0 labour,

Indigent poor, - - 0 10 6 poor rates,

Artizans, - - 0 1 6 other rates,

Ditto, - - 0 4 0 wear and tear,

Carried over, - £ 4 .4 0

(70)

Brought over,	-	£ 4 4 0
The church,	-	0 12 0 tythe,
The farm,	-	0 8 0 fuel,
Ditto,	-	0 18 0 { renovation of stock,
Ditto,	-	0 5 0 team,
The farmer,	-	1 18 0

		£ 8 5 0

Ditto, on 3 acres,	-	1 18 0

Per acre,	-	£ 0 12 8

Produce, - - - - - £ 8 5 0

DEDUCT AS BEFORE,

Team renovation and fuel, $\frac{1}{2}$ of labour,
 $\frac{1}{2}$ poor rates, and $\frac{1}{2}$ wear and
tear, } 2 17 6

Divide by 3 years, £ 5 8 6

For market, - - - - £ 1 16 2

I am inclined to believe, that no calculation of grass land
can be made on any data, tolerably fair, that will not shew,
as this does, the benefit to the public, of land being under
grass; here is a larger produce free for market, than in any
of the preceding estimates.

P71.†

If this estimate approaches the truth, it explains the reason why such immense tracts remain in a state disgraceful to the kingdom. It is evidently the farmer's interest to make a large return on a small capital. Were such lands improved, he would receive a smaller return from a much larger investment. Hence arises the fact, that all landlords, when they let such wastes, should take care to fix on them a very high rent, as an inducement to the tenant to cultivate them. If favour is shewn in rent, let it be in any other part of the farm.

The real produce of such lands will never be known till inclosures are made, and sheep confined to them without folding, through the year. The question might be ascertained in that manner, with great ease.

GOOD GRASS LAND APPLIED TO SHEEP.

STATISTICAL DIVISION OF THE PRODUCE OF AN ACRE OF GOOD GRASS LAND.

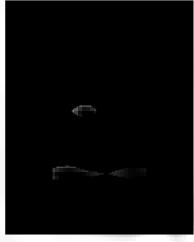
Rent 15s.

Farmer's capital, 6*l.* per acre.

It is proper to observe, that there is very little land in this county thus applied; and I insert the estimate merely by way of query, to bring to light such observations as individuals may have made on sheep-feeding good land, without the stock being folded from it.

I
d
p
f
n
R
o

fo
a
cr
pr
in



SHEEP-WALK.

STATISTICAL DIVISION OF THE PRODUCE OF AN ACRE.
OF SHEEP-WALK.

Rent 2s.
Farmer's capital, 10s. per acre.

It is extremely difficult to calculate with accuracy the produce of land which is never managed or kept distinct from the rest of the farm. In such cases, all that is possible to be done is, to approximate as near the truth as a variety of information, not founded on experiment, will allow. From such circumstances, I am inclined to believe, that the average produce of such sheep-walks in Suffolk, as let for 2s. 6d. an acre, landlord's rent, do not produce gross more than 5s. which may be called the keeping of one sheep, twenty weeks, at 3d. a week. This sum may be thus divided:

	L.	s.	d.
Landlord,	0	2	3 net rent.
The state,	0	0	3 land tax.
			—
	0	2	6 gross rent.
Indigent poor,	0	0	3 rates.
Industrious ditto,	0	0	2 labour.
The church,	0	0	4 tythe.
			—
	0	3	3
The farmer,	0	1	9
			—
	£	0	5 0



CROPS PRODUCED.

17 sheep, 26 weeks in summer, at £. s. d.	
3d. " " " " "	<u>3 5 6</u>
Winter, half a sheep per acre, twenty	
weeks, at 3d. " " " " "	<u>0 2 6</u>
	<u>£ 3 8 0</u>

DIVIDED AMONG

	L. s. d.
The landlord,	0 12 0 net rent.
The state,	0 2 9 land-tax.
Artizans,	0 0 3 repairs.
	<u>-----</u>
Industrious poor,	0 15 0 gross rent.
Indigent poor,	0 2 6 labour,
Artizans, &c.,	0 3 6 poor rates,
The church,	0 4 0 tythe.
The farmer,	1 2 6
	<u>-----</u>
	<u>£ 3 8 0</u>

	L. s. d.
Produce,	2 8 0
Deduct 5-6ths labour, and	
3-4ths poor rates,	<u>0 4 8</u>
For market,	<u>£ 2 3 4</u>

RECAPITULATION.

	Rent.			In Market.			Gross Produce.		
	L.	S.	D.	L.	S.	D.	L.	S.	D.
Arable good dry loam,	0	15	0	1	15	10	3	13	10
Ditto strong loam,	0	15	0	1	12	0	3	10	10
Ditto sand,	-	0	5	0	0	15	10	1	4
Grafs, Cows,	-	0	16	0	1	16	2	2	15
Sheep-walk,	-	0	2	6	0	0	0	0	5
Grafs, Sheep,	-	0	15	0	2	3	4	2	8
				8	3	2	13	12	4

If in future a greater light should be thrown on these enquiries, it will probably be found, that an apprehension, very common with some persons, of grafts land being, on comparison with arable, injurious to the public interests, is extremely ill-founded; and that, on the contrary, the support of great cities and flourishing manufactures very intimately depends on a large proportion of the soil being thus employed.

Comparing the sum total of the gross produce with the portion free in the market, it should appear, that the latter exceeds considerably the half of the former.

* Without including 5s. Sheep-walk.





S E C T. XXI.

MISCELLANEOUS.

I OMITTED to guess (for the subject allows little more) the number of sheep in the whole county; but, as it is a point of some importance to approximate to the truth, I shall calculate thus: That the sand districts have (which is nearly the fact) one sheep to two acres; that the rich and strong loams have one to five acres; and that the fen has one to six.* Under these proportions, the numbers will be:

Sand,	270,000	acres	-	-	sheep	135,000
Loam,	500,000		-	-	-	100,000
Fen,	30,000		-	-	-	5,000
			<hr/>			<hr/>
	800,000					240,000
			<hr/>			<hr/>

ROADS.

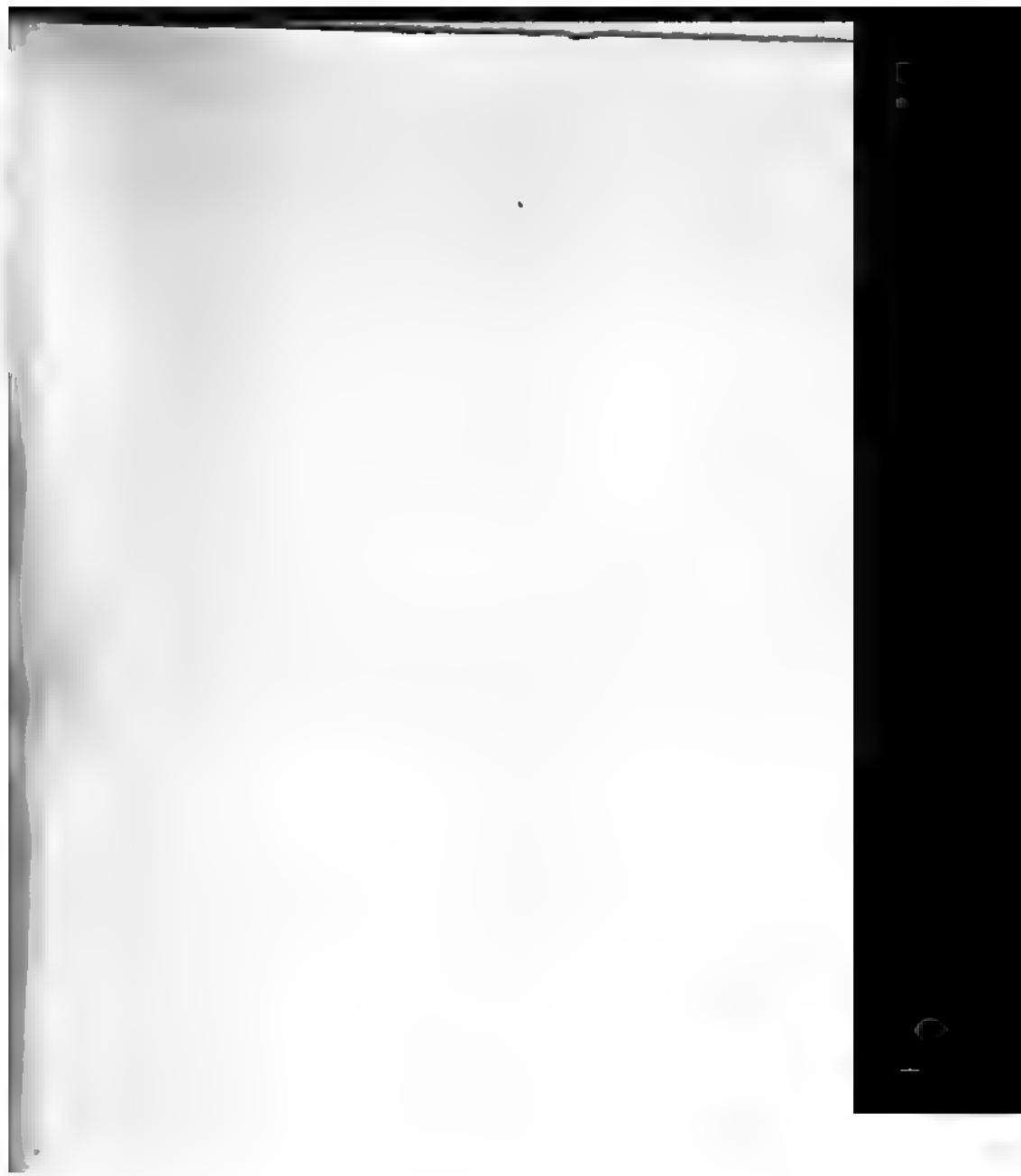
These are uncommonly good in every part of the county; so that a traveller is nearly able to move in a post chaise by a map, almost sure of finding excellent gravel roads; many cross ones in most directions equal to turnpikes. The improvements in this respect in the last twenty years are almost inconceivable.

OBSTACLES.

Open field lands, and common rights, and the present mode of the payment of tythes, are the chief obstacles, to a better cultivation, met with in Suffolk.

AP-

* The stock in the fens is very irregular: sometimes many, sometimes none.



A P P E N D I X.

S T A T E O F T H E P O O R .

THE most singular circumstance relating to this subject, in the county of Suffolk, is the incorporation of various hundreds, for erecting and supporting *houses of industry*. Thomas Ruggles, Esq. a friend of mine, having examined these, with great attention, is so kind as to communicate the result of his enquiries in the following memoir, which I insert as the most satisfactory mode of introducing them in this Report.

THE local inconvenience and distress arising from the number of the poor, and the expenses of maintaining them, had occasioned many districts within the county of Suffolk to apply to parliament for the power of incorporating themselves, and of regulating the employment and maintenance of their poor, by certain rules not authorized by the existing poor laws; in consequence, several acts of parliament passed, incorporating those districts; the poor have been governed and maintained within those districts, according to the power given by such acts; and the conveniences and inconveniences, the benefit and the disadvantage experienced from the execution of those acts of parliament, will be explained and elucidated by the best information obtained from the districts thus incorporated.

That this might be performed with accuracy and certainty, I determined to visit all or most of the houses of industry within the county of Suffolk, that I might be able, from actual inspection and personal enquiry, to state the facts which have been experienced respecting these institutions; the conduct of them, together with the consequences which have arisen to the public from them; and to make also some observations on those facts and consequences.

The middle of the summer was the time when the excursion was made; and the houses were visited and inspected as suited convenience, from the morning to the evening. The notices taken on the spot, and the informations received since by letter, shall be stated according to the priority, in point of time, of the acts of parliament incorporating the districts, and the erection of the respective houses.

The following questions were put to all the governors of the houses of industry, and their answers to them minuted, when answered satisfactorily; and the information

mation obtained is incorporated with the general account ; except when or atenda it could not answer them immediately, but engaged to do it.

1. How many poor men, women, and children, have been admitted into the house, annually ?
2. How many have died since the same time in the house ?
3. Has any, and how much of the debt contracted by authority of the house been paid ?
4. Have the poor rates in the districts incorporated, been increased or diminished ?
5. What are the manufactures in which the poor are employed ?
6. Is the sale of any of these manufactures, and which of them, diminished in time of peace and war ?
7. Are the poor, or any of them, and how many, employed in agriculture ?
8. Is any particular disease epidemic, or more prevalent than another ? State the nature of such disease ?

These questions were calculated with a view to form some judgment of the value of these institutions tended to increase the chance of human life ; to diminish the expense of poor relief in time of peace and war ; and also to form a comparison of the profits arising from the manufactures of wool and hemp, in houses of industry.

Colnies and Carlford hundreds were incorporated by act of parliament in the twenty-ninth year of his late Majesty's reign, and their house of industry, in the parish of Nafton, was built in 1757, and first inhabited in 1758.

The information which could be obtained on the spot, was not of the greatest accuracy ; the governor and his wife being from home when the visit was made, and it was about six o'clock in the evening of the committee day.

Manufactures in this house—Cordage, sacks, plough-lines, spinning and weaving.

Boys spin hemp, stilted at six-pence a day, one with another.

Girls spin wool ; great girls stilted at six-pence a day, but receive only half.

In the dormitory for men and boys, two men are usually put into a room, and four boys, certainly too many ; one man, or two boys, is the proper number. It is probable that this circumstance, that the dormitory was neither in a good state of repair, nor the dining hall very neat,

The poor are allowed more liberty without the walls at present, than they have, and are more healthy.

Five acres of land are occupied by the house ; two cows are kept.

Only one man out at work in agriculture ; no boys.

The highest poor rate in any of the parishes when incorporated, was three or five-pence, quarterly.

What follows is the answer to the foregoing questions, transmitted by John Enefer, the governor of Nafton house of industry, by Mr. Ord Brooke, Esq. one of the directors.

NACTON HOUSE OF INDUSTRY.

The poor are employed in wool-spinning, home-spinning, and making sacks, &c. the neat profits of which, upon an average, for the last seven years, amount to 277l. 13s. 6d. per ann.

The poor rates were at first 148l. 13s. per ann. but advanced at midsummer, 1790, to 260l. 7s. per ann.

The expenditure, upon an average for the last seven years, 2367l. 8s. 8d.

The original debt was 4800l. is now 4400l. and will be reduced 500l. more, Murchas 1793.

The men and women able to work, earn from two-pence to six-pence a day.

The children are limited according to their abilities, and not according to age, from one half penny to six-pence a day.

Very few hands are employed in agriculture.

The number of poor admitted into the house, for the last fourteen years, amounts to 2017.

The number of deaths, for the last fourteen years, amounts to 389.

The most prevalent diseases in the house have been the small-pox, measles, hooping-cough, and fever.

The hundred of Blything was incorporated in the year 1764; and the house of industry built on a rising ground, in the parish of Balcamp, about a mile from Blithburgh.

The manufactures are woollen and linen for the use of the house, shoes, stockings, and all their cloaths; linen is made in this house, up to the value of three shillings and sixpence a yard; nothing is sold.

The house also spins for the Norwich woollen manufactures, and has earned 400l. a year.

Forty-six parishes were incorporated.

The average number of poor admitted, the first five years, amounted to about 203, annually.

There are now in the summer generally about 250, in winter about 300, in the house.

The number of men, women, and children admitted into Balcamp house since the institution, Oct. 13, 1766, total 5207.

The number of men, women, and children, who have died since the same time, tot 11381.

These totals were taken from a list of admissions and deaths, transmitted to me by Sir John Rous, Bart.

Many children are admitted without their parents.

Near 80l. a year is paid to out-pensioners.

The sum borrowed was 12000l. half of which was paid off in 1780; the whole in 1794.

The average of the poor's rate annually, at the first incorporating the hundred, was not above one shilling in the pound; this rate was diminished one-eighth in 1782, when half the debt was paid.

None

None of the poor are at present employed in agriculture.

In 1781, a putrid fever broke out in the neighbourhood : this house contained about one hundred and thirty of its inhabitants ; the town of Blithburgh one-thousand inhabitants.

Twenty-five acres of land belong to the house, which, together with the acres hired, are occupied, some for the plough, some pasture and garden.

The hundreds of Mutford and Lothingland were incorporated in 1750. One house of industry is in the parish of Oulton, near Lowestoft, and has been built by the Corporation.

The number of parishes incorporated is twenty-four.

Yearly income about 120*l.* of this near 200*l.* arises from the corporation.

Sum borrowed, 620*l.* Expenses in building the house about 300*l.* on a frugal plan, and will contain about 200 poor.

Not more than 100 were admitted annually for the first seven years ; the average amount to about 150.

1700*l.* of the original debt has been paid ; besides 200*l.* a debt contracted for the building of the house was under bad management.

The poor's rate was advanced, in 1781, ten per cent. on the original sum, but the debt has not been diminished ; but the debt continues diminishing at the present time.

The register of deaths has not been regularly kept during the first seven years of the incorporation ; but the average number, during the last six years, has been about 100.

The manufactures are, making nets for the herring fishery. The twine is made of hemp, and it is braided by the yard.

The hemp which they grow is also manufactured in the house, and the weaving has been put out.

Woollen yarn is also spun, but the trade is at present bad ; therefore the poor are employed in spinning wool as can do nothing else.

A child's stint, either for braiding nets, spinning yarn or hemp, is 1*s.* a day. Several children, not above seven years of age, were employed in the manufacture of nets.

Sometimes some of the poor are let out to work in husbandry at sixpence a day, and the employment chiefly weeding.

The weekly earnings of the house, on an average, 4*l.*

Out-allowances were, last year, 55*l.* and are increasing, but supposed to be sufficient for the establishment.

Land in occupation twelve acres, all arable ; two yearly sown with barley, and the rest kept ; their butter and milk bought.

The hundred of Wangford incorporated 1764.

Shipmeadow house of industry, between Harleston and Beccles, has been built by the Corporation.

The number of parishes incorporated, 27.

Annual income from their rates, 1750*l.*

Annual amount of labour, about 156*l.*

Number of paupers in the house, about 200.

Deaths in a year, about 20.

There is no manufactory in this house; but their employment is spinning for the Norwich manufactures.

Out-allowances about 80l. a year.

Children are taken into the house from large families, instead of relieving those families by out-allowances.

Original debt 8500l. of which 4000l. is paid off.

Land, forty-five acres, of which twenty-seven are arable: five cows are kept.

The house has no chapel; but they attend the parish-church.*

Loes and Wilsord hundreds, incorporated in 1765.

The house of industry in the parish of Melton, erected the same year, is on a more extended and expensive scale than any of those which have hitherto been examined. Their dining-hall is very spacious and neat; as are the dormitories. There are apartments appropriated to the infirm. The governor's apartments are large and convenient. The cellars are excellent. There are good rooms for the boys and girls schools; and there are also apartments fitted up and appropriated as penitentiary lodgings for refractory people, &c. those who may be guilty of offences requiring solitary restraint, under authority of the act of parliament which passed in 1790, enabling the incorporated hundreds to borrow an additional sum of money.

The manufactures are linen and woollen: the first principally for their own use; the last is considerably affected by the war.

The number of poor in the house is from 230 to 240.

The average number of deaths, for the last three years, is about sixteen annually. The governor could not give any information, in this respect, farther back, not having been there longer.

The out-allowances are large; and, by the last rules and orders drawn up for the regulating the proceedings of the directors and acting guardians, printed in 1792, although they seem to have limited the sums to be allowed, with prudence, they do not seem to have been equally careful that the number of paupers, who receive out-allowances, shall be reduced, by obliging them to come into the house. These out-allowances are the cause of the increase of expence, and tend to the old system, to avoid which was the occasion of erecting these houses. By a letter I was favoured with from the Rev. Dr. Frank, of Alderton, it appears, that the original debt of these hundreds was 9200l. The present debt is 10,050l. That the maximum of the poor's rates, in the incorporated hundreds, was not more, including Marshalsea money, &c. than fifteen-pence in the pound annually, estimating at rack-rents, when the hundreds were incorporated, and that they remain the same. A surgeon and schoolmaster reside in the house.

There were, between thirty and forty in the sick-wards, mostly confined by the infirmities natural to age; but sore legs were the prevailing complaint among them.

The poor children were taught different trades in the house, besides the manufactures; such as making clothes, shoes, &c. Three poor men are employed in agriculture.

Quantity of acres belonging to the house about thirty. Three acres of hemp are grown annually, and manufactured; about an acre and a half of garden; the rest pasture. Six cows are kept.

The

* Oulton and Smeadow houses of industry were visited, and the notices of them taken by a friend who went along with me to the other houses of industry in the county.

The late governor considerably injured the revenue of this house by
of the manufactures.

Samford Hundred, incorporated 1765.

The house of industry erected 1766, in the parish of Taitingstone,
the reception of the poor at Michaelmas in the same year.

The original sum borrowed was 8250l. of which 2450l. has been paid.

The number of parishes incorporated is twenty-five.

The yearly assessments 2262l. 18s. 6d.

The rates were settled in 1766, at 2s 8d. in the pound by the year,
same.

The average number of poor in the house, and the number of deaths
years.

In the Year	Poor in the House,	Deaths.
1786,	280	47
1787,	251	22
1788,	202	26
1789,	262	32

The average number of poor admitted from 1766, annually, could
certained, but is about 260. The average number of deaths from the
nusally, is 37 and a fraction; but the small-pox, attended, or rather
putrid fever, has been in the house three years, viz. in 1780, 1781,
number of deaths each year was 76, 81, 56.

The poor are principally employed in spinning for Norwich; the
was,

In 1786,	-	-	L.	s.	D.	L.
			514	9	11	
1787,	-	-	509	0	3	
1788,	-	-	407	18	9	
1789,	-	-	401	16	7	
Out-allowances the same years,			186	6	4	240
			320	4	9	294

Income and Expenditure the same Years.

In 1786,	Income.			Ex-
	L.	s.	D.	
	2838	12	4	25
1787,	2857	5	5	27
1788,	2737	2	9	29
1789,	2721	2	9	29

There are at present eleven packs of top-work, value about 300l. by
count of the stagnation of the Norwich trade.

Only two men and three boys are at present employed in agriculture.

The officers of the house are, a governor, surgeon, chaplain, matre-

In the dormitories, which are large, there are two or three windows in each, opposite to the general range of windows; these have a great effect in keeping the rooms airy and sweet.

There were no sick in the Infirmary.

The land belonging to the house is thirty-six acres.

The hundreds of Bosmere and Claydon were incorporated in 1765.

The house of industry was erected in 1766, in the parish of Barham, and opened for the reception of the poor in the month of October the same year.

The original sum borrowed was 999*4l.* of which 729*4l.* has been paid off.

The number of parishes incorporated is thirty-five.

The yearly assessments 256*1l. 4s. 10d.*

The poor's rate remains the same.

The average number of poor in the house, and the number of deaths for the same years.

	Poor.	Deaths.
In the year 1787,	200	34
1788,	246	35
1789,	247	32
1790,	247	55
1791,	213	72
1792,	179	25

The small-pox was the occasion of the increased number of deaths in the years 1790 and 1791.

The information received on this head was, that the poor in general were very averse to inoculation; therefore, when the pest-house (one of which each house of industry has) is full, there were no means to prevent the disease going through the house of industry itself; the consequence has been a considerable mortality, but probably not greater than when the same disease has attacked the village-poor, and its fatal effects have not been prevented by inoculation. The Barham-house has now two pest-houses at a little distance from it.

The poor are principally employed in spinning for Norwich. Their profit has been, on an average, about 200*l.* annually; but for the half-year ending at Midsummer 1793, only 72*l. 1s. 8d.*

Out-allowances,	1786,	L. S. D.
	323 3 8	.
	308 3 2	
	357 3 10	
	377 6 10	

Income and Expenditure for seven years.

	Income.			Expenditure.		
	L.	S.	D.	L.	S.	D.
1786	-	-	2959 12 0	-	-	2380 13 0
1787	-	-	2905 2 0	-	-	2175 8 6
1788	-	-	2857 14 6	-	-	2574 7 0
1789	-	-	2876 8 0	-	-	2587 5 0
1790	-	-	2908 16 11	-	-	2622 10 2
1791	-	-	2890 10 11	-	-	2529 18 10
1792	-	-	2920 13 6	-	-	2810 10 3
Total,	<u>£ 20318 16 11</u>			<u>£ 17680 12 9</u>		
				Profit		

Profit to the house in seven years, ending in 1792—2638l. 4s. 2d.

There were more women between the ages of twenty and thirty years in than in any of the other houses of industry.

Seventeen aged and infirm people were in the sick wards.

Land belonging to this house, twenty acres, of which two acres were gardens were kept.

The hundred of Cosford and the parish of Polstead incorporated in the year of the present reign.

The house of industry is situated in the parish of Semer, and was erected

The original debt was £6000l. is now reduced to 18cl. and an annuity of 2 to a person upwards of sixty years of age.

The poor's rates have been reduced three eighths ; and a considerable sum in hand.

The poor in the house are employed in spinning wool, which is washed at in the house ; and the yarn is sold at Norwich by commission ; but the sale considerably affected by the war : a considerable quantity now remains in hand.

The poor, who are able, are employed in agriculture, when an opportunity offers.

The average number of paupers generally in the house, is about one hundred and eighty.

The average number of burials annually, since the institution, is about ten ; the much greater proportion died the first two years, after the house was erected, which was attributed to too much meat diet being allowed to the paupers first coming into the house, after having suffered extreme poverty ; this cause has since guarded against, and the burials have considerably decreased.

The house has been free from any epidemic disease, since it has been erected ; when the small-pox has been prevalent in the country, there have been two general vaccinations in the house, with great success each time.

When I visited this house of industry, the governor was from home ; as was Mr. Cooke, the son of that worthy magistrate, who from the first institution of it to the time of his death, regulated the management of it with so much attention, as to make it productive, in the shortest space of time, of more beneficial effects than any similar establishment in the county of Suffolk. It was from an answer to a letter, I took the liberty to send to this gentleman, that the foregoing account has been extracted ; the information obtained, and observations made on the spot, shall follow from my own notes.

The chief employment is spinning yarn for Norwich ; but some of the women spin and weave into serge for the women's jackets.

Course thickset is bought at Norwich for cloathing ; linen cloth for shifts, &c. at the market town of the hundred.

Poor in the house, July 25, 1793. Men, 27, women 42, children 22, under the ages of 12 and 20, under the age of 12 years 74 ; in all 165.

No men are out at day labour ; four boys are scaring birds at the wages they receive, which is five pence a day. Girls at the age of thirteen are put to work, boys at the age of fourteen.

Twenty-two packs of yarn remained unsold, valued at about 600l. Land belonging to the house, about twelve acres ; of which two are garden, ten meadow and one wood.

Hartsmere, Hoxne, and Threading hundreds, incorporated in the 19th of the present reign.

There is no house of industry erected. Owing chiefly to the difficulty, at the time of incorporating the hundreds, of borrowing money, several parishes in the hundreds have erected workhouses for setting to work and maintaining the poor; and, in general, it is supposed by the incorporated hundreds, that this plan is equally, if not more beneficial to the respective parishes, than if they had built a house of industry, as they were empowered to do by the act of parliament incorporating them. For this information, I am obliged to a letter from the Rev. Mr. Chevalier, of Aspall.

The hundred of Stow, incorporated in the 20th of his present Majesty's reign. The house of industry in the parish of One-house, opened for the reception of paupers, Oct. 11th, 1781.

The sum first borrowed was only 8000l. but the expence of building the house, so much exceeded the sum intended to be laid out for that purpose, that an additional debt of 4150l. was afterwards incurred; and the rates were increased one-fourth, by common consent, for three years: they remain now the same as they were at first. Fifteen hundred pounds have been paid of the debt.

The poor are employed in spinning top work for Norwich; the wool is bought by the house; and the cloathing for the use of the house is made from the refuse of the wool, and such spinning as is unfit for the Norwich manufactory; their best rugs are also made from these materials: no part of their cloathing is put out to be made except stockings.

The sale of their spinning is considerably affected by the war; twelve packs were left in the house unsold the latter end of July, the value of which is about 24l. a pack.

None are employed in agriculture at present; only two men are in the house, who can do harvest work; some children are sometimes employed in weeding; all who are able are employed in hop-picking; but it is conceived that nothing is saved by such employment.

The average number of paupers in the house about two hundred.

The number of burials since Oct. 11, 1780, to August 1, 1793, as follows:

Oct. 11, 1780, to Jan. 1, 1781,	8
In the years	
1781	25
1782	51 a putrid fever.
1783	61 a putrid fever.
1784	51 a putrid fever.
1785	14
1786	2
1787	17
1788	15
1789	11
1790	13
1791	19
1792	18
To August 1st,	1793
	17

These form, taking the fractions of a year in 1780 and 1793, as one
rage of 24 $\frac{7}{13}$ th yearly; or omitting the three years when the putrid fever
average of the remaining ten years is only 15 $\frac{1}{16}$ th.

Annual income from rates, 1987l. Ditto from labour, manufacture
thereabouts, for the last ten or eleven years; but the last half year has
to 104l. owing to the stagnation of the Norwich manufactory.

The out allowances arise from 250l. to 300l. annually, and are increas-
to continue so during the stagnation of the Norwich manufactory.

There has been no fever or epidemic disorder in the house since 1784,
has been much sickness in the hundred; nor were there in the house, at
notices were taken, any of the poor so ill as to be confined to their beds.

The number of acres belonging to the house is twenty-four; of the
half are arable, one acre garden, the rest pasture.

Four cows are kept, and two horses.

A schoolmaster to teach the children to read, and a mistress to teach
children, are constantly in the house.

Relief is given to large families, by taking those children into the ho-
burthen to their parents; the same method is also practised by all the i-
try; consequently the children are taken very young.

In this house the spinning rooms and working rooms are divided by pa-
a manner that few spin or work together; the dormitories are also di-
manner; this is an improvement not observable in any other of the ho-
and tends much to the preservation of health and order.

In the incorporated hundreds, the houses of industry strike one in
from the cottages of the poor; they are all of them built in as dis-
pleasant situations, as the vicinity affords; the offices, such as the kitche-
bakehouse, buttery, laundry, larder, cellars, are all large, convenient,
needing neat; the work rooms are large, well aired; and the sexes are
in hours of work and recreation.

The dormitories are also large, airy, and conveniently disposed; sep-
children of each sex, adults and aged: the married have each a separ-
themselves; mothers with nurse children are also by themselves.

The infirmaries are large, convenient, airy, and comfortable; no
places.

All the houses have a proper room for the necessary dispensary, and
surgeon's room besides.

The halls, in all, are large, convenient, well ventilated, with two
places in them, and calculated, with respect to room, for the reception
as the other conveniences of the house can contain.

The chapels are all sufficiently large, neat and plain. Several of the
to grandeur and elegance; there were two houses which had no chapel,
made use of a room ample enough for the congregation, properly fitted
very neat; the other houses attended the parish church.

The apartments for the governor were in all the houses large, and
posed; in one or two of the houses of industry, these apartments were
eious and elegant than necessary; there are also convenient stowhouses

for keeping the manufacture of the house; the raw materials and the cloathing, &c. for the use of the inhabitants.

The land about the houses belonging to them, particularly the gardens, are all calculated for producing a sufficient quantity of vegetable diet; so necessary to the health, as well as agreeable to the palate of the inhabitants.

In general, the appearance of all the houses of industry, in the approach to them, somewhat resembles what we may suppose, of the hospitable large mansions of our ancestors, in those times when the gentry of the country spent their rents among their neighbours.

The interior of these houses must occasion a most agreeable surprise to all those who have not before seen poverty, but in its miserable cottage, or more miserable workhouse.

In looking over my notes, I find that the affirmative neatness, which prevailed from the cellar to the garret, in all the houses, with very few exceptions in particular departments, occasioned not only a memorandum of the fact, but gave rise to a conception, which possibly lies more in imagination than reality; that where a deficiency in this respect is observable in any domicile, a concomitant deficiency is also observable in the healthy looks of the inhabitants.

This neatness, which had so pleasing an effect on the eye, was the cause also, that the other senses were not disgusted by that constant attendant on collected filth and foul air, a noisome stench; as deleterious to human life, as it is in general nauseating to those who accidentally breathe such an atmosphere.

The practice of frequently white-washing does much in preserving the air of these houses wholesome and sweet; but the constant attention of those who perform the offices of the house, is absolutely necessary; and even that is insufficient, unless the halls, working rooms, and dormitories, have the external air admitted through the windows, whenever it can be done with safety to the inhabitants, with respect to catching cold. This practice of keeping the windows open cannot be trusted to the paupers themselves; for, strange to tell! the general complaint against them was, that they would, not only, not attend to keeping them open, but if the adults and aged had their choice, such depravity arises from habit, that they would live in that atmosphere of putrid air, which would undoubtedly produce contagion.

The neatness and propriety which prevailed in their halls at the hour of refecion, were also handsomely observable; most of these houses of industry being visited at the hours of breakfast, dinner, or supper. At times I have felt disgust, when requested to take some refreshment which has been offered me in a cottage; a disgust arising from the absence of that neatness which attends the tables of those among whom it has been my lot to live; but no want of neatness in these houses created disgust; a breakfast, dinner, or supper, might have been ate at their tables with a keen appetite.

Their bread was in all the houses particularly pleasant; it was good brown bread; made from the flour deprived of the coarsest of its bran; white bread was also baked for the infant, the convalescent, and young children.

Their cheese was in general good, although frequently the cheese of the country. In one house they bought Dutch cheese, which was stronger in its taste, and consequently, to some palates, not so pleasant. The small beer was also pleasant; no wonder, they bought the best malt and hops, brewed a large quantity at a time, and kept it in excellent

lent cellars. Ale was also brewed in inferior quantities, and given to the and to those whom the governor thought proper, either as a necessary reward: and it was also distributed at stated times to the whole house.

It did not occur to me to take minutes of the bill of diet in any of the houses, doubt has been suggested that it is not wholesome and sufficient. That stances, it has been too abundant, may be suspected, as well from the relief seen after their meals, as from the idea thrown out by one of the directors which has been alluded to.*

The application of these facts, which have been stated, as well upon the personal inspection, and information from those whose duty it certainly was, elimination it appeared to be, to give true and full information upon the subject, those gentlemen also who obligingly communicated any information by letter remains to be made to three important queries.

1. Have these institutions amended the morals of the poor?
2. Have they tended to diminish the burthen of expence to society a relief and maintenance?
3. Have they increased, or do they tend to decrease, the chance of human misery?

With respect to the first question, it may be answered in the affirmative, possibility of contradiction.

They have amended the morals of the lower orders of people; if the few instances of indictments at the quarter-sessions, for actions of inferiority, which lead to greater crimes, will prove the fact.

If the general good order and regulation the labouring poor are kept in the incorporated districts, which good order is evidenced by their general conversation, and by their observation of those laws, the breach of which may endanger the lives and diminish the safety and comfort of his Majesty's subjects, such as drivers riding on their waggons, tippling in ale-houses, and the improprieties and improprieties of conduct---if such attention to the orders of society. If the respectful and civil behaviour of the poor to their superiors, instances of children being seduced to steal wood, turnips, &c. and to the other small thefts; if these, and similar proofs of good morals, unfortunate in those districts within the county, where these houses are not instituted---I prove the fact, experience tells us these institutions have tended to reform the poor.

And the prophetic spirit of theory had before-hand informed those, who a judgment on the subject, that the effect could not be otherwise.

A large building, calculated for the reception of the poor of the district, in the most healthy situation, with convenient offices of all kinds, the institutions are under the regulation of well-chosen officers, subject to excellent rules calculated to promote regularity, industry, morality, and a religious sense. hours of work, refreshment, and sleep, uniform and regular.

The children, from the earliest age, on leaving their mother's arms, are under the care of proper dames, who teach them obedience, and give them the hab-

* See the extract from Mr. Cook's letter respecting the Senior house of industry.

When more advanced in years, schoolmasters teach them to read; and the superintendants of the working-rooms, some industrious employment, and take care that their hours of work shall not be passed in idleness. Here they are generally stinted, so that greater industry is rewarded with greater leisure.

The duties of religion are expected to be regularly attended by all the poor of all ages, no excuse being admitted but illness.

It required no prophetic spirit to foretell, that these duties, and this system of regularity, being persevered in, the best effects must of consequence ensue to the morals of the poor of all ages, and to those of the rising generation in particular.

To determine the second question with certainty, recourse must be had to the notices taken respecting the fact, in the different incorporations; and it will be found, that, in some, the poor's rates have been diminished; in others, they remain the same as at the time of the institution; and, in a few, the rates have been increased: the different instances shall be pointed out, and some observations made on the facts as they have been stated.

Blything hundred, Bulcamp house of industry; the whole debt, £2,000l. has been paid off; the rates were diminished one-eighth in 1780; and as they were not, on an average, above one shilling in the pound annually, when first incorporated, they are now inconsiderable.

The hundred of Cosford, and the parish of Polstead; the house of industry at Semer; the whole debt, 800l. has been paid off, except an annuity of 20l. a year, and 180l. but they have stock more than sufficient to discharge these remaining demands; the poor's rates have been diminished three-eighths; and the rates were very moderate when the hundred was incorporated.

Waiford hundred, house of industry at Shipmeadow; original debt 8500l. of which 4000l. is paid. Rates remain the same.

The hundred of Samford; the house of industry at Tattingstone; the original sum borrowed 8250l. of which 2450l. have been paid. The rates were settled at 2s. 8d. in the pound annually, and remain the same.

Hundreds of Bolmire and Claydon; the house of industry at Barham; the original sum borrowed 9994l. of which 7294l. have been paid. The rates remain the same.

Slew hundred; the house of industry at One-house, near Stowmarket; the original sum borrowed 12150l. of which 1500l. have been paid. The rates remain the same.

Hundreds of Colneis and Carlford; the house of industry at Nacton; the original debt was 4800l. is now 3,000l. The rates were increased at Midsummer 1790, from 1487l. 13s. 4d. annually, to 2367l. 8s. 8d. But from information it appears, that the rates were not more than sixteen or eighteen pence annually, when the average was fixed; and the revenue of the house has exceeded its expenditure, on an average of the last seven years, 513l. 11s. 10d. annually.

Hundreds of Mutford and Lothingland; the house of industry at Oulton; the original debt 6500l. of which 2000l. has been paid off. The poor's rates are advanced ten per cent; but three hundred pounds of the debt is annually paid off.

Hundreds of Loes and Wilford; the house of industry at Melton; their original debt was 9200l. their present debt is 10,050l. Their poor rates, together with their county rates, do not now exceed fifteen-pence in the pound at rack rent.

By

By this recapitulation it appears, that, at two of the houses of industry, the debt has been considerably diminished, and the original debt annihilated.

At four, the rates remain: but a considerable part of the original debt is paid.

At two, the rates have been increased, and the debt diminished.

At one, the debt has been increased, and the rates remain the same.

The question, whether houses of industry tend to diminish the expense and maintenance of the poor, is therefore answered in the affirmative; for, if the rates are diminished, the debt is paid; in four, the debt has been completely extinguished, consequently the annual balances in their favour might have been applied to the purpose of diminishing the rates, *pari passu*, with the debt: in two, the annual balances have been applied hitherto to diminish the debt only, and the rates have been increased: in one, the debt is somewhat increased, and the rates remain the same, being a low average of fifteen-pence in the pound annually.

When the average at which these parishes settled their rates at the time of incorporation, and the number of years which have elapsed since that average was fixed, are considered; in some, being between thirty and forty years, and in others, twelve or fourteen, and compared with the proportion the rates then stand to the proportion they would now bear, had there been no house of industry, the advance of the poor's rate in the other parishes throughout the kingdom, and in Suffolk in particular, as they are proved to be by the returns of the inquiries made by parliament in the years 1776, and 1783, 4, and 1785, computation, and no better can be obtained, in which returns it appears, that the two contiguous hundreds in Suffolk, not incorporated, Risbridge and Westerfield, the net expences of the poor alone had advanced from 11,023l. 7s. 11d. to 12,817l. 10s. 11d. being a difference of 2817l. or thereabouts, in the course of eight years, or 35 per cent. an advance that brings forward the most unthrifty man to consider the houses of industry into a state of positive prosperity and reduction of expense. It will therefore be found, that not only where the rates have been stationary, but also where they have advanced, and in the instance, where the debt has increased, the rates have been very much decreased from what they would have been, had the parishes remained in the old system; according to the old and common system; we may therefore, with confidence, apply the old adage, *non regredit nisi regredi*, with respect to the expences of the incorporated houses of industry.

On the whole, although, in an instance or two, originating from an error in the account of building the houses of industry at first, more subsequent expences have been incurred than were at that time foreseen, and consequently a larger revenue became necessary to pay the interest of the additional sum they were obliged to borrow, a sum, however, less than the expences of the house, than was at first thought sufficient; and, in addition to the profusion of the then governor has so disarranged the affairs of the house, as to render a new loan, and consequently an increased rate, convenient; it is conceived, that not the least shadow of doubt can be raised, but that, in instances, the revenue of the houses are increasing beyond the disbursed expences, and the rates will fall even beneath that low medium rate, which is preferred; and which rates, had there been no house of industry, would be twenty-five, or even fifty per cent. above their present amount.

The other question, Whether the houses of industry have increased the chance of human life? involves in it such complicated considerations, is a question of such uncertainty of proof; a comparison with the state of population in county villages, and with the chance of human life of people of particular ages, and particular situations only, and not with human life in general, being to be taken into consideration; and there being no data with which the comparison of the facts can be made, the tables of the chance of human life being of too general a nature; and the facts themselves, as to deaths, in houses of industry, not being sufficiently particularised as to age and state of patients health when admitted, to give an exact result, that some general observations on the deaths which have happened in these houses, compared with the numbers admitted, is all that shall be attempted; leaving the reader to make up his own mind, as well as he is able, from the imperfect sketch of the question it is in my power to offer; to which I shall very humbly add my opinion, without presuming to dictate any positive conclusion to his judgment.

And, first, it will be proper to pay some attention to the situation of the poor and their families, before they take refuge from the misery of extreme poverty in a house of industry; what are at that time their expectations of health and life?

They are so reduced by poverty as not to be able to maintain themselves and their families, and therefore they become inmates of a house of industry, consequently the constitution, both of parents and children, must have been debilitated, by want of necessary food, raiment, and shelter, that none can be said to be admitted in sound health; no estimate can, therefore, be made of their chance of life, in comparison with the inhabitants of villages, towns, or cities, in general.

They are afflicted with disease, either parents or children, and therefore they are sent by the parish-officers to a house of industry: the chance of life with such is still decreasing.

Children are born, and, at the earliest age at which they can leave their mothers, are received in these houses, and are kept in them through that period when the chance of human life is least; and much the greatest number in all the houses is composed of children.

The other considerable class is composed of the aged, and the infirm, either from age or accident. The chance of life, in this class, is small indeed.

Such are the different situations of the inmates in a house of industry. Very few poor, between the age of fifteen and fifty, are seen there, except diseases, accidents, infirmities, or particular irregularities of life, have occasioned them to be sent there.

The chance of life, to people in these situations, and of these ages, under the pressure of penury, although not absolutely chilled by the cold hand of extreme poverty, would, in their miserable cottages, be small indeed. Is that chance diminished or increased by going into a house of industry?

Is the chance of human life increased or diminished, by being brought from an unwholesome starving diet to wholesome moderate plenty? from nakedness to cloathing? from filth to cleanliness? from cold to warmth? from the noisome contagion of a filthy cottage, or parish-workhouse, to a healthy air, free from noxious effluvia? Surely the answer to these questions would at once determine the point, did it depend on theory only.

But it may be said, The question has been tried by the touchstone of single page of which, honestly recorded, goes farther towards proof than volumes of theoretic reasoning; we must therefore have recourse to this stration.

The solidity of this observation must be allowed, were the facts properly, in houses of industry, capable of being compared with the deaths in similar circumstances, and of similar ages, at large.

In Nacton house of industry, the number of poor admitted, the last three years are 2017; the number of deaths 384. The annual average of inhabitants 144; of deaths, 27.

In Bulchamp house of industry; the number admitted since the institution in 1793, twenty-seven years, 5207; the number of deaths in that time, the year 1781, and 1782, a putrid fever carried off one third of the inhabitants, and 217 of the inhabitants of this house; therefore those two years are omitted in the comparative statement. The numbers will then be, inhabitants admitted in 25 years, 4725; of deaths 1064; or annually, 42; of deaths 42.

Oulton house of industry; number of inhabitants on an average, and the last six years; of deaths for the same period, annually, 11.

Shipmeadow house of industry; number of poor about 200 annually, of deaths about 20 in a year.

Melton house of industry; number of poor in the house from 200 to 250, and the number of deaths for the last three years about 16 annually.

Tattingstone house of industry; average number of poor in the house for 23 years, 210; average number of deaths annually for the same time, 25. In the first three years there were 100 deaths, and in the last three years the three years are omitted when the small pox and putrid fever prevailed, in the three years when these contagious distempers were frequent, the average number of deaths up to 37 $\frac{1}{3}$, as has been stated in the notice of the houses.

Barham house of industry; average number of poor inhabitants 222, and the number of deaths 42. As the small-pox prevailed for two years, and destroyed 127 of the inhabitants, the average of deaths otherwise would not have been so high.

Semer house of industry; average number of poor inhabitants in the house from its institution, 180; annual number of deaths 26.

Stow house of industry; annual average number of poor inhabitants about 200; of deaths annually, 24; but in this house a putrid fever prevailed for three years, and was fatal to 163 people; the average omitting these three years, and taking it for ten years only, is 15 in a year.

In the nine houses of industry, which have been the objects of our attention, the number of poor inhabitants varies, and are constantly, one year with another, 1780 poor inhabitants, and 1100 children.

In the same houses, there happen annually two hundred and forty-four deaths, and the average of these nine houses is 27, which is the number appears by the averages taken.

The number of deaths to the number of inhabitants annually in all the houses of industry in Suffolk, is therefore as 1 to 7 $\frac{1}{3}$, or nearly one-seventh of every year.

It should be recalled to the reader's mind, that the inhabitants are composed of children from birth to the ages of 12, 13, or 14, when they are bound apprentices or get services. The chance of life in this early age is such, as in the healthiest towns not half the number is alive at the age of 13, as appears from the tables in Dr. Price's Supplement to his Observations on Reversionary Payments; of old people whose work is done; and of poor of all ages, who from sickness and infirmity are unable to maintain themselves; such being the description of paupers admitted into these houses of industry. It must again be observed, that no comparison can be made between the chance of life of such inhabitants, and of those inhabiting in cities, towns, or villages, in general; because, in the first instance are comprised only the very young, the very old, and the infirm and diseased; and these are also poor, and of impoverished blood, and constitutions weakened by the effects of poverty; whereas the tables in Dr. Price's Supplement to his Reversionary Payments, and in the publications of other political arithmeticians, comprehend people of all ranks, orders, and situations in life, as well the healthy and the robust, as the infirm and the diseased; as well people of all classes, at those periods, when the chance of human life is greatest, as at those when it is the least.

The question of the comparative chance of human life, in these houses, must, therefore, be left undetermined by any comparison with such chance in general; and probably the question would be more fairly tried, could a comparison be made between the mortality in the parishes incorporated, before such incorporation took place; and such mortality since; taking into the account the number of the poor of each parish who have died in the houses of industry.

The effect these institutions have had with respect to population, might also, by means of such comparative researches, be more accurately ascertained, were it likely that such enquiries would be attended by certain information; which probably might be the case with respect to the comparative number of deaths, by means of the parish registers, and the books of the respective houses; but that part of the question which respects comparative population, could not, by any direct inquiry, be ascertained; and can only be computed from the births and burials in the parishes, which would afford by no means an exact result.

On the whole, this question must be left in doubt for the present. To judge from every appearance attending the interior of the houses of industry, no one could hesitate to declare, that they must tend to increase the chance of human life, and to increase the population of the districts; the same judgment must be deduced from all theoretic proofs; reasoning from probable, nay, almost necessary consequences. But when the comparative number of the living to the dead, taken annually, appears to be only as seven and one-third to an unit; or in other words, that the chance of life in a house of industry is not equal to eight years, the fact strikes strongly, and occasions the judgment upon the question to remain suspended.

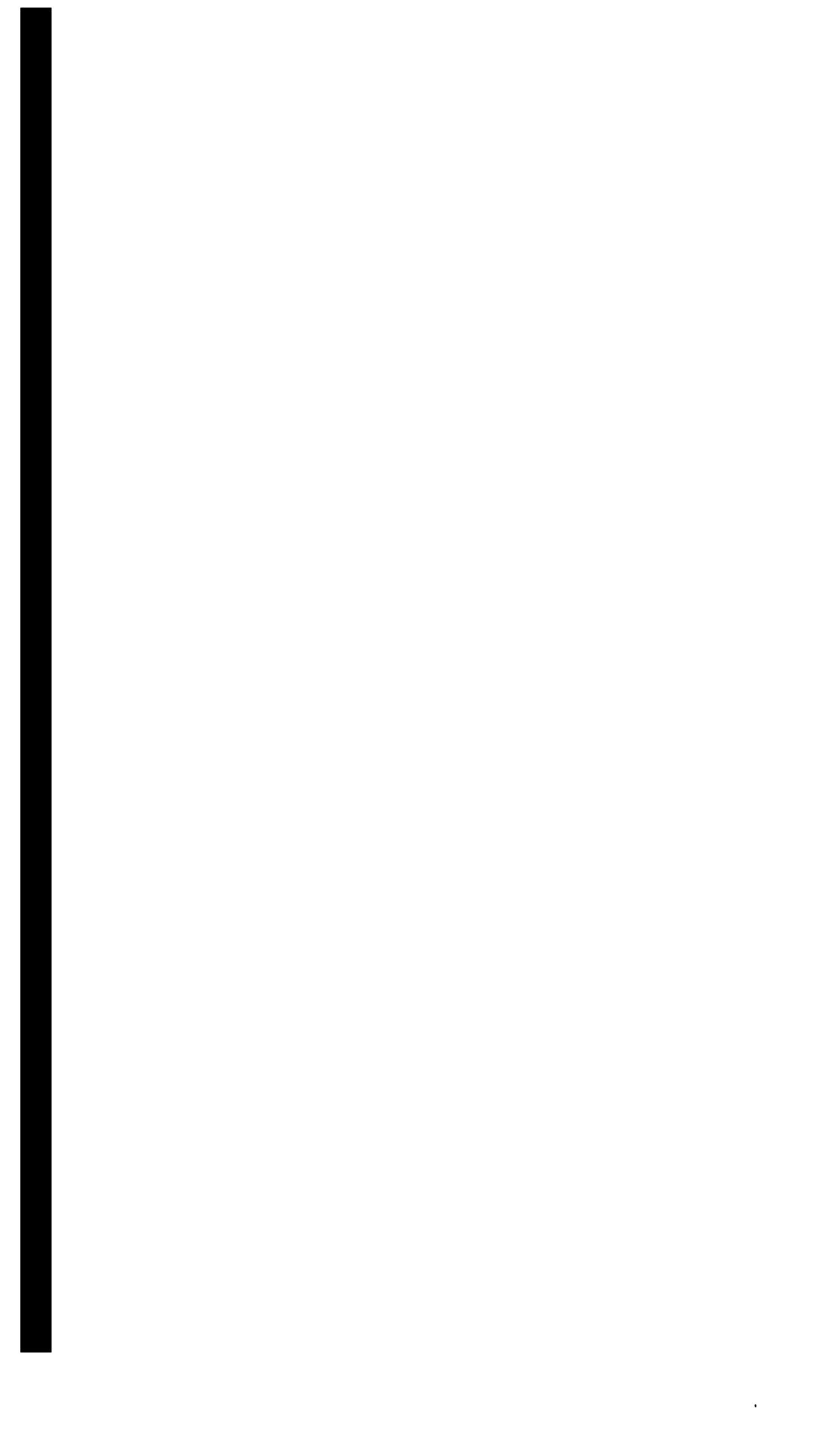
But still two great points are determined in their favour; they certainly tend to moderate the morals of the poor, and they also tend to diminish the burthen of the expence attending their maintenance. That the other point is not on experience determined in their favour also, arises from the difficulty of acquiring every information necessary to its investigation; and from the inability of the writer to apply, with precision and certainty of proof, such facts as he had obtained. He will believe that this point will, whenever it falls under the pen of a more accurate enquirer, and able political arithmetician, conduce also to the recommendation of district incorporated houses of industry, as tending to increase the chance of life and population.

I cannot take leave of this subject, without animadverting upon so received, respecting the dissatisfaction of the poor at the first erection of industry ; which broke out in riotous proceedings, and in some instances great additional expence to the incorporated hundreds ; the spirit of rebellion so far as to pull down the buildings erected, and to commit other outrages. It is a well known fact, proved by long experience, that the constituting what is called a mob, is never collected and excited to the incitement of an individual, or some few individuals, who poison the uninformed but well meaning neighbours ; these are men generally of superior to the mob itself ; they are men who mix in conversation with houses, at the shopkeeper's, and at the barber's shops ; are in general young people, who, under the mask of great humanity, tender almost regard for their poor neighbours, instigate them to these and similar acts. Examine the situations in life, the habits, the connections of these persons, secret machinations are discovered, by the effects of open riot and massacre. Stand the concealed encouragers of the mob. It must strike every inhabitant, that a trifling degree of attention to the conduct of this description of men would have demonstrated before the fact, that those very individuals would be the clandestine incitement of the mob of the neighbourhood, to the very destructions committed ; and consequently, it would be proper, in a district where such an operation is intended, to be watchful of the conduct and conversation of men, whose interests will be most injured by a plan of this kind. Oppose the effect of their conversations on the minds of the poor, by every means that can devise and the laws will sanction.

Was any additional inducement wanting to recommend district houses ? the particular situation and temper of the times would be that inducement. Orders of the kingdom are now pressing on the next ; and the toe of the invader galls the knee of the courtier. That relief which formerly was, and is still petitioned for as a favour, is now frequently demanded as a right ; the intemperance which formerly feared to be observed, now obtrusively practised ; the pauper is no longer satisfied with his allowance, nor the labourer ; the saint rumour of distant atrocities, which disgrace human nature, of the multitude, cleansed from the blood and carnage, and assuming a pleasing shape of liberty and property. The only class of men who have calm the rising storm, are those in the middling ranks of life ; and they are destined to preserve things as they are, as any other rank in the state, the only solid bulwark of the nation ; for, those who possess it have a duty to preserve it, and our laws and our constitution must stand or fall with it. District houses should consolidate all the men of property resident in the county in the same interest, for the preservation of industry, good order, and a religious sentiment among the people. The few gentlemen of fortune who reside in the county, meritotious part in all the incorporated houses ; the beneficed clergy resident there also, and it does them honour, for it is equally their duty as their interest ; so the opulent yeomanry of the country, a body of men of the first consequence, for the preservation of peace and order. Permit, therefore, an individual who thus feels sentiments on a subject not generally understood, to assert, without the presumption or arrogance, that equally the duty as the interests of government encourage these institutions, by every mode in their power.







G E N E R A L V I E

W

OF THE

A G R I C U L T U

OF THE COUNTY OF

N O R F O L

"YE GENEROUS BRITONS, VENERATE THE PL



ERRATA.

- P. 10, l. 24, for meadow land, read meadow lands
— — l. 25, for is, read are; and for consists, read consist
— 11, l. 14, after value, insert and
— 24, l. 10, for Wyburn, read Weyburn
— 31, l. 15, for costs, read cost
— 43, l. 9, for ash, read asp
— 52, l. 1, after cattle, insert &c
— 55, l. 25, for symmetry, read symmetry
— — l. 33, for flubble, read stubb

GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
NORFOLK
WITH
OBSERVATIONS ON THE MEANS OF IMPROVEMENT

By NATHANIEL KENT,

G. K.
DRAWN UP FOR THE CONSIDERATION OF THE BOARD
AND INTERNAL IMPROVEMENT

LONDON:

PRINTED BY C. MACRAE.

M DCC XCIV.

S455

A2

v.1

no. 6

A D V E R T I S E M E N T.

THE following valuable communication, respecting the present state of Husbandry in the County of Norfolk, and the means of its improvement, drawn up for the consideration of the Board of Agriculture, is now printed, merely for the purpose of its being circulated there, in order that every person, interested in the welfare of that county, may have it in his power to examine it fully before it is published. It is therefore requested, that any remark, or additional observation, which may occur to the reader, on the perusal of the following sheets, may be transmitted to the Board of Agriculture, at its office in London, by whom the same shall be properly attended to; and, when the returns are completed, an account will be drawn up of the state of Agriculture in Norfolk, from the information thus accumulated, which, it is believed, will be found greatly superior, to any thing of the kind, ever yet made public.

The Board will probably follow the same plan, in regard to all the other counties in the united kingdom; and, it is hardly necessary to add, will be happy to give every assistance in its power, to any person who may be desirous of improving his breed of cattle, sheep, &c. or of trying any useful experiment in husbandry.

INTRO-



INTRODUCTION.

THE superior benefits resulting to society from Agriculture, are so conspicuous, that it is impossible they should escape the observation of a speculative mind. Other improvements carry only local advantage; but those of Agriculture are diffusive of general good to mankind. It is unquestionably the first of all sciences, as it nurses and supports the rest: it is therefore deserving the greatest encouragement from all ranks of men, who are able to promote its improvement, whether by liberal aid, industry, or talents. As an individual, I feel the utmost satisfaction in making a free-will offering to the public of my mite of information on the present occasion, and am glad to find that Government has at last sanctioned this important object. By the aid it may receive from this respectable quarter, and from the zeal and perseverance of the active members who are placed at the head of the new establishment, much may be expected; and as professional men from all districts, are called forth, to make their full and free observations upon the husbandry of the parts with which they are most familiar, it is to be presumed, that a great deal of useful information will be brought together, after which a judicious selection will undoubtedly be made, highly to the advantage and improvement of the public; for as many men will, of course, describe the same object, it will be necessary, for the sake of brevity, to winnow the chaff from the corn, taking what is good from every man, and rejecting the dross.

Thus, all who embark in this business, may have the satisfaction to find they contribute something to the welfare of the great object on foot; and though the subject they aim to describe, may not be published exactly in their own words, their ideas will at least be blended in the great body of the work.

PURPORT OF THE ENQUIRY.

IT is to be presumed, that the design of the Board, is to inform itself of the present State of Husbandry in every County, with a view to give all the encouragement in its power, to such practices, which have a beneficial tendency, and to put out of countenance such as are carried on upon erroneous and obstinate principles.

There is no doubt, but great advantage will be derived from a plan of this sort. In the first place, every soil in the kingdom will be described, and its right use pointed out, which is the first step to good husbandry.

Cattle will, of course, be largely treated of, and the judicious farmer be enabled to distinguish how far he can rationally improve his native stock, and how far mix the breed to advantage with cattle of another district; and, at the same time, avoid the rock which a great number of people at this time split upon, in hastily changing their present stock for another, perhaps too large, and totally inappropriate to the nature of the land.

Buildings will likewise be another consideration, of great moment, as it is an object, that greatly affects the profit of estates; therefore, the selection of the best kind of materials, and the adoption of the best plans, combined in comfort and frugality, will be found highly deserving the attention of the landed interest.

Implements of husbandry will be found deserving the attention of farmers, and in many instances may be changed to advantage.

In short, a thousand useful subjects and experiments will be treated on, so largely and so satisfactorily, (that nothing fallacious can be allowed to stand where so many persons,

ting upon the same subject, must correct each other) that there will be no occupier of land but may derive some additional knowledge to what he is now in possession of; for when all the best and worst practices are fairly exhibited, a person must be deficient in common sense not to adopt the one, and explode the other.

EXTENT, CONTENTS, AND POPULATION.

THE county of Norfolk, in its greatest length, due east and west, is 59 miles; and in its greatest breadth, from north to south, 38 miles. At the ends it is not so broad; but in the whole it contains 1,710 square miles, and 1,094,400 acres. The several divisions of this large tract of land are difficult to ascertain, but according to the nearest calculation that I have been able to make, they may be taken up in a general way, thus:

The space on which the towns stand,	- - - -	1500
Public and private roads,	- - - -	16416
Lakes and rivers,	- - - -	2000
Sedgy and swampy ground,	- - - -	1500
Unimproved commons,	- - - -	80000
Woods and plantations,	- - - -	10000
Arable land, computed at two thirds of the whole county,	{ - - - -	729600
Meadows, parks, and upland pasture,	- - - -	126692
Marsh lands,	- - - -	63346
Warrens and sheep walks,	- - - -	63346
Total of acres,		1094400

The population of the city of Norwich was ascertained in the year 1693, when it was found to contain 28,881 souls; and again in 1752, when it was found to have increased to 36,169; but the trade was then in high reputation, and the city said to be very healthy; and as the trade has since rather declined, it cannot be supposed the population has much increased since, though it is generally understood, that there are now about 40,000 souls in Norwich, 10,000 in Lynn, and 16,000 at Yarmouth.

As to the smaller towns and villages, I have considered them partly from a general average of houses, and partly in proportion to the number of cultivated acres of land; and though calculations of this kind must not be looked on as accurate, I consider the whole number of people in the county to be about 220,000.



FORM AND ASPECT.

THE surface, except in some few parts, near Norwich, and upon the coast, near Sheringham and Cromer, is mostly a dead flat, consequently the aspect is in general uniform and uninteresting, and as the open, and worst parts, lie to the south west, where strangers enter the county, it must offer to them a very dreary and barren appearance; but all the north, north east, and south east parts, are inclosed; and being as well, if not better cultivated, than any other part of the kingdom, and certainly much richer in timber, than any other maritime county, exhibit at least many cheerful and pleasant views, but none that are very extensive or romantic.

NATURAL

NATURAL ADVANTAGES.

THESE consist in good roads, a great proportion of sea and river navigation, a great store of excellent manure, and an enterprising and industrious race of inhabitants.

In support of my first assertion, I can boldly say, that the roads are better in their natural state, than in almost any other county ; so good, that no turnpike was thought of in Norfolk, till they became common in most other parts ; so good, that Charles the Second, when he honoured the Earl of Yarmouth with a visit at Oxnead, is said to have observed, that Norfolk ought to be cut out in slips, to make roads for the rest of the kingdom ; by which he, undoubtedly, meant to compliment the county upon the goodness of its roads, above other counties. In short, the roads, though often called bad by Norfolk men, are so good, comparatively with those in other counties, that where the common statute duty is fairly done, a traveller may cross the country in any direction, in a post chaise, without danger ; and where the duty is not done, may trot his horse from one parish to another, at the rate of six miles an hour.

The second is a very considerable advantage, not only in the saving of carriage, but by enabling the farmer to avail himself of the level of distant markets. The navigation by sea, and rivers, almost belts the country round, from Yarmouth to the mouth of the Nine ; the sea is the boundary, being eighty miles. The great Ouse is navigable from Lynn, twenty-four miles through the country, and then communicates with seven of the midland counties ; the little Ouse branches from the great Ouse, and is navigable, by Brandon, to Thetford ; the Waveney is navigable from Yarmouth, by Beccles, to Bungay ; the Yare is navigable from Yarmouth to the populous city of Norwich ; and the Bure, from Yarmouth to Aylsham, exclusive of several smaller cuts to private estates.

The

The third natural advantage is almost peculiar to this county; for though there are large stratum of marl in most other counties, I have never seen any of so good a quality, or so easy to be got at, as it is to be found in most parts of this county, and in many places very near the surface. Mr. Marshall, in his Rural Economy of Norfolk, a work of great merit, describes two sorts of marl, and enters into a chemical investigation of their natures. Suffice it, on the present occasion, to say, that it is of inestimable value; twelve cart loads to an acre of the white, or rather yellow marl, will, the second year after it is laid on, change the nature of land; most of the exhausting weeds which impoverish the soil, and choak the corn in its infancy, are effectually destroyed, as it has a great tendency to keep land clean; it braces the pores of the earth closer together, and increases its fertility to a surprising degree; its benefit, though not to the effect it produces at first, is felt for thirty years; when a second marling, of about half the original quantity, may with propriety be used; but it has been found by experience, that it does best the second time, compounded with muck or maiden earth. I should add, that as it is of a ponderous nature, it suits best on lay land, by which means it mixes sooner, and better, with the native soil.

The other species of marl is, more properly speaking, a clay, impregnated with marly particles, and though good in quality, is certainly much inferior to the other, as it requires more than double the quantity to carry the same improvement.

The fourth natural advantage results from the industry of the inhabitants, who are active and persevering, in whatever they undertake, and have certainly the merit of having cultivated thousands of acres of land, which in any other county, except some parts of Suffolk, where there is a congenial disposition, would have been despised, and suffered to lie in an unproductive state.

NATURE OF THE SOIL.

THE greatest part of the arable land is sandy. The prime parts of the county lie north, and north-east of Norwich; comprising the hundreds of East and West Flegg, South Waltham, Blofield, Happing, Henstead, and the greatest part of North and South Erpingham; all which may be denominated a true sandy loam, equal in value to the best parts of the Austrian Netherlands, to which it is similar. It is highly fruitful, and so temperate and pleasant to work, that it is rarely injured by wet or drought, so that the occupier is seldom put out of his rotation of cropping. It is very unlucky for the credit of Norfolk, that this part of the county is, by its distant situation, less known to strangers than any other part.

The district south and south-east of Norwich, consisting of the hundreds of Loddon, Clavering, Henstead, Earsham, Diss, Depwade, and Humilyard, as well as some parts of Fourhoe and Myford, though chiefly sand, have an occasional mixture of clay, and are, in many parts, wet, and full of springs; but yet these parts are fruitful, though to a less degree than the former; they are likewise less pleasant and more expensive to work.

The largest proportion of the county lies west and north-west of Norwich, comprising the hundreds of Taverham, Eynsford, Holt, North Greenhoe, Gallow, Launditch, Brothers, Smetdon, Freebridge, and Clackclose. There is some very good land in different parts of this district; but upon the whole, it is a very inferior country to the two preceding districts. It runs, in general, high, and its best dependence is upon the soil. This is what is called West Norfolk,

Norfolk, and is the part which Mr. Young described in his first Norfolk Tour; and on account of the three great houses of Holkham, Houghton, and Rainham, is the part which strangers are most acquainted with. It is here, that great farms are to be found, with a thin population; and if it were not for the occasional assistance derived from the eastern part of the county, there would often be a want of hands in the harvest, and other busy seasons.

The hundreds of Shropham, Gytecross, Weyland, South Greenhoe, and Grimshoe, lying south-west of Norwich, run upon a still lighter sand; so light, that in the last mentioned hundred, the sand very often, in a high wind, drifts from one parish to another. This is the part where the great rabbit warrens are found, which upon this soil pay better than any other thing the land could be appropriated to.

Marsh land may be considered as a hundred by itself. The soil is a rich ooze, evidently a deposit from the sea: the north part is highly productive; but the south part very much injured for want of better drainage, about which there is now a contest between the proprietors of these lands and the town of Lynn, the merits of which I must decline entering into, as the object will very soon be brought before parliament.

THE MEADOW LAND,

IN most parts of the county, is alike, and consists chiefly of a dead moor. They carry in their natural state a very coarse appearance, being spongy and full of rushes; yet they are seldom wet in themselves, but chiefly so from being dript upon by the springs which issue out of the arable land which lies above them. The best mode of draining these meadows





For remarks &
obseratio

is to keep the rivulet open, to a free discharge in the lowest parts, and to cut two very deep drains, one on each side, parallel with the rivulet, just between the arable and meadow land, where the springs generally shew themselves; and these two drains, if they are sunk deep enough to get below the springs, will, nine times out of ten, lay the meadows dry; the next thing is to spread upon them ten or twelve loads of small gravel or sand, per acre, which will tend more than any thing to give them firmness, fine the surface, and sweeten the herbage, by encouraging what is called the Dutch Clover to spring, with which the earth is every where impregnated. I have found, by considerable experience, that this is the best improvement for Norfolk meadows. Mr. Marshall recommends watering, and says it would double their value; Mr. Colclough, and some other spirited gentlemen in the neighbourhood of Thetford, have lately introduced the practice there, to which I wish most hearty success, but am much inclined to doubt its being extended to any great benefit in this county, for I have tried it more than once. It is an improvement that ought to be introduced wherever circumstances are in its favour, but I have not found it answer here, for two substantial reasons, because the country is so flat that you cannot bring the water on with a sufficient spirit; and if you could, the soil is so dead, it would not have the effect it has upon a gravel. It is the first of all improvements undoubtedly, where it can be effected, and where the soil is of a quick and lively nature. It generally answers, if it be ever so poor. I shall expect to see water meadow well described in the publications upon Hants, Dorset, and Wilts, where they are well understood.

THE WOOD LAND,

OF an old standing, is not considerable ; a single wood, or coppice, is found here and there, but no great tract together; nor are they remarkable for any particular application of the underwood. The mere purpose of sheep hurdles, and of materials for thatching, constitutes its chief use; but as the management of woods is a very essential part of rural economy, I hope my nephew, Mr. Pearce, will do justice to this subject, in his Account of Berkshire, where woods are more numerous.

THE MARSH LANDS,

EXCLUSIVE of what I have before mentioned, lie chiefly in two places ; one part of them upon the north coast, from Brancaster to Clay, which is of an exceeding good quality : but a much larger proportion of them lie between Norwich and Yarmouth, and though most of these are under water, during the winter, they are in general so good that many of them will fat a bullock at an acre and an half to a bullock, and all of them are capable of bringing cattle very forward in the course of the summer.

THE COMMONS

LIE in all parts, and are very different in their quality. Those in the neighbourhood of Wymondham and Attleburgh are equal to the finest land in the county, worth at

For remarks and addit
observations.

least twenty shillings an acre, being capable of making either good pasture, or producing corn, hemp, or flax. There are other parts which partake of a wet nature, and some of a furze and heathy quality; but they are most of them worth improving, and all of them capable of producing something: and it is a lamentable thing, that those large tracts of land should be suffered to remain in their present unprofitable state. The arguments for the continuance of commons in their present state are, in general, fallacious; and though specious, are grounded on mistaken principles of humanity. The advantage they would be to society, if properly cultivated, would be very great, and the attention of the new Board will, I trust, soon be fixed upon this important object, so as to find the means of removing the great impediments which prevent their inclosure, upon which I shall have more to observe under the head of Common Fields.

After making a fair deduction for roads, there are supposed to be somewhat more than eighty thousand acres; and from observation and inquiry, I find that, (taking this up in a comparative point of view, with a more enlarged calculation I made upon the waste lands in general throughout the kingdom, which I have just published as a Supplement to my book of HINTS*) this tract of land, in this single county, supposing only two-thirds of it were cultivated, would afford additional employment for ten thousand people, the benefit resulting from which, in a manufacturing and trading country, I leave to the financier to estimate.

COURSE OF CROPPING.

THE course of cropping upon all parts of the arable land is endeavoured to be fixed by the landlord under a six-course shift; wheat, the first year; barley, without seeds, the second;

B 2

cond;

* To be had at DODSLY's, in Pall-Mall.

cond; turnips, the third; barley or oats, with seeds, the fourth; clover mowed, the fifth; and clover, grazed and broken up at midsummer, the sixth. But the occupier will often endeavour to contract it to a five-course shift, by sowing his wheat upon clover of one year's lay, and in some of the best parts, as in the Flegg, Tunstead, and Blofield hundreds, some tenants carry on only a four-course shift; thus, wheat, turnips, barley, and clover. This last is quite similar to the practice of great part of Flanders, where the invariable method is to carry an alternate crop for man and beast; but as land, though ever so good, will grow tired of a too frequent repetition of turnips and clover, some inconvenience is occasionally sustained; to remedy which, they will do well to change the former of these, now and then, for a vetch crop, and the latter for trefoil or lucern. No course of husbandry can be more profitable than this, where the soil will allow it; and there are many parts of this county where it may be carried on without doing any injury to the land. I consider the five-course shifts to be more unfair than the four, because, in this case, there are three crops of corn to two crops for the animal. This mode of cropping would be better, if the barley crop, after wheat, was sometimes changed for buck wheat, which would neither be an unprofitable or exhausting crop; and thus a little varied, the practice of a five-course cropping might be allowed in the parts where the soil is good in quality; but in the great western parts of the county, the course of six shifts ought to be strictly adhered to; and there is something very rational in this six-course husbandry upon a light soil; for though the exhausting and fertilizing crops do not follow alternately, as in the four-course shift, yet there is an equal number of each observed in the rotation. I think, however, in the very light parts of the county, that a seven-course shift would be an improvement; but I do not mean by letting the land remain three years laid, as some have recommended, because the Norfolk land does not yield much profit from seeds after the first year: but

I would rather recommend the following course ; wheat, vetches, barley, buck, turnips, barley, clover. This would keep the turnips and clover crops at such a distance, that there would be no fear of their success, and as the buck might be considered as a neutral crop, the alternate advantage would not in fact be lost in its good effect. I believe, too, that by means of the vetches, more stock would be kept on very light land than from the present six-course shift.

And now a word or two respecting the practical part of the business.

Ploughing is certainly done with much greater ease in this county than any other, and much cheaper, as it does not stand the farmer in above 3s. 6d. an acre for each tilth. There is no instance of more than two horses being put to a plough : the same person who holds the plough drives the horses also with reins. *See the descriptive sketch of it.*

The horses are short and compact, but active and hardy, and seldom exceed fifteen hands. Instead of working them seven hours in winter and eight in summer, as they do in most other counties, without drawing their bits, they are worked eight hours in winter and ten in summer, by two journeys, as they are termed, which enable them to do considerably more than they would by one journey, as it is evident that a horse would go two twelve-mile stages a-day upon the road, with as much ease, for a constancy, as he would twenty miles at one stage; besides, the heat in summer is more avoided by this means. The common day's work for two horses is a statute acre, and, in times of seeding, it is very common to plough an acre and an half.

One man looks after four horses and drives two of them; the other two are driven by a day-labourer, who does little jobs about the yard, at the interval, while his horses rest, and in the evening.

As ploughing is done here with so much ease, it is an encouragement to the farmer to give it the more tilths, which,

in

in some measure accounts for the land being so clean; but I apprehend there is another reason, which is, the shallow ploughing observed in this county, compared with many other parts of England. Land is undoubtedly kept cleaner by shallow than deep ploughing; and, in light land, the moisture is more preserved by having a pan at the bottom; and there is likewise a much less body of earth to manure and keep in heart. The great secret with ploughed land seems to be in keeping it so clean that nothing shall grow but what is sown upon it; and to keep the surface in a pulverized state, so as to be open and mellow to receive benefit from the influence of the atmosphere.

In treating of the process in seeding, I shall begin with wheat. This is partly dibbled and partly sown broad-cast: the former is not in so high estimation as it was some years since; but I am of opinion, that when wheat is planted upon clover of only one year's lay, it is the best practice, especially if the dibblers are well looked after, for in this case it will admit of a saving of a bushel of corn to an acre. This saving is an important advantage, as a bushel of wheat is enough to support a man two months, as the average consumption is six bushels a-year to every human mouth; and if we value the bushel of wheat which is saved, at six shillings, the farmer is only four and sixpence out of pocket, as he can have it done very well for half a guinea an acre, and the corn is generally better bodied, and somewhat heavier. When sown upon one year's lay, it never has but one ploughing; and when it is sown upon a second year's lay, it never has but two. The old practice was, to break up the second year's lay soon after the spring grass was eaten off; but now it is seldom touched till after Lammas, and then the best way is just to pare up part of the sward by a sort of half-ploughing cross the ridges, just curling the ploughed part over the unbroken part, in an inverted state, and, when the turf is deadened, to cross-harrow it; and at the wheat-seeding to plough it up, in the straight way.

of the ridges, to its full and proper depth. The turf by this means falls to the bottom, and operates as an assistant manure. I have nothing to recommend in addition to this practice, but that the farmer should take care not to be too late; as it has been remarked, that, as near the time as possible that nature sheds any particular seed, it always grows with more certainty, and therefore less seed is required, when sown early, than when sown late: about Michaelmas is the height of the season here; it never should be delayed above a fortnight after.

The barley is put into the ground in excellent condition. When it follows wheat, the stubble generally has turnips thrown upon it till Christmas, when it is scale ploughed in two furrow ridg'd, and afterwards has four earths.

But the great piece of husbandry in which Norfolk excels, is in the management of turnips, from which it derives an inestimable advantage. This important crop is the great source of abundance to the country, and has been gradually rising to perfection in its cultivation, for upwards of seventy years. Not only this county, but many other parts of England, are indebted to the Townsend family, for the original introduction of this root into this country. Before that time turnips were only cultivated in gardens and small spots, and hoed by gardeners; but in the reign of George the First, the then Lord Viscount Townsend, grandfather of the present noble Marquis, attended the King to Hanover, in the quality of Secretary of State, and observing the advantage of this valuable root, as there cultivated at that time, and the fertility it produced, brought the seed and practice into England, and recommended it strongly to his own tenants, who occupied a similar soil to that of Hanover. The experiment succeeded, and by degrees it gradually spread over this county, and in the course of time, to other parts of England, though their cultivation is by no means so general as it continues here. A good acre of turnips in Norfolk will produce between thirty and forty cart loads, as heavy as three horses can draw; and an acre

will

will fat a Scotch bullock, from forty to fifty stone; or eight sheep. I wish I could close this short history of turnips, without lamenting, that the ground does not relish them so well as formerly, so that great care is necessary in raising them, and more seed is required: after all, it is a teasing and precarious crop, and admits of no certain rules to ensure absolute success; though some cautions may be worth stating in this place. The first ploughing should not be later than Christmas, and should be to its full depth, unless the land is foul, in which case it should be ploughed very fleet the first time, in two furrow ridges, and the second time to the full depth; but it should never be ploughed in wet weather. After the first fallow has received the benefit of the frost and snow, it should be harrowed down in March. The next ploughing should be as soon as the barley sowing is over, and it should have five earths in all; the last ploughing but one, the dung is ploughed in very fleet, and roiled down; and the last should be about a fortnight after, not later, as the muck will about that time begin to ferment. About twelve loads an acre is a proper dressing. There is, perhaps, no part of husbandry more deserving imitation by the rest of England than this. Some persons use rape-cake for turnip manure; and Mr. Styleman, of Snettisham, a gentleman of considerable fortune, who farms part of his estate upon a large scale, and is trying many ingenious experiments, uses it in a pulverized state, to which he reduces it by means of two mills worked by two women, each mill being formed of two cylinders, revolving towards each other. The first breaks the cake into pieces of the size of a walnut, by the operation of cogged cylinders; the second is constructed of plain cast iron cylinders, similar to those used for grinding clay to make bricks. Thus reduced to powder, he puts it into the very drills, where he had just before deposited the turnip seed, by means of Cook's machine, which requires no other contrivance or alteration than substituting different cups and funnels.

act. The quantity of cake used is a quarter of a ton per acre, which has never exceeded £1. 5s. in its price. He assured me that this method had never failed to insure him a good crop, and that it does equally well for wheat.

Having stated, that turnips came into this country from Hanover, one would naturally expect that they were managed to great perfection there, at this time; but I doubt this is not the case, for I had this summer the honour to be introduced to a very intelligent Hanoverian nobleman at Windsor,* who was very inquisitive into the state of Agriculture in England; and upon my conversing with him about turnips, I found that they did not know the use of them there at this time so well as we do; which is a matter of surprise, that an article of such great benefit should ever decline in repute; I doubt it must have arisen from the ground growing tired of them; for which reason I recommend our English farmer to break the succession of the crops, now and then, by substituting vetches or potatoes in lieu of them, which may be easily done without interruption to the succession of his corn crops; and by this means, I am of opinion, this most valuable root may be permanently established in our system of Agriculture.

Hoeing is another essential part of the culture, which is invariably done twice, in a masterly manner, at the expense of six shillings an acre.

Many things have been suggested, to guard against the attack of the fly, but there is no dependence to be placed on any of them ; the only precaution consists in ploughing the land till it is very fine, and filling it full of muck. The turnip has also another powerful enemy, which is the black tinker. Some people draw a rope over the ridges, two persons holding the opposite ends ; this will brush them off, and sometimes save a few acres ; but those who can breed

C *clucks*

* Count Hardenberg.

ducks enough, may save a greater proportion, as they devour them very fast. There is also another remedy, which, I am informed from the best authority, is practised in some parts of Yorkshire; viz. gathering the insect by hand; which is done from five to eight shillings an acre. Women and children being employed in this useful business at six pence a day, the women; and the children, at three pence, and four pence each, according to their age.

Having thus described the culture of turnips, it may not be amiss to add a word respecting their consumption. In general, they are drawn, and given to neat cattle either in cribs or stalls, which is productive of a vast quantity of muck; or else they are scattered before them, as well as the fatting sheep, upon a dry piece of pasture or stubbie; by which means they go much farther than they would if trodden into the dirt, and enrich the land very much upon which they are so thrown; it being understood in Norfolk, that the land wherein they grow, is left in sufficient heart by the manure bestowed upon it for the turnips: so that it is apparent, that by manuring one piece of land, they manure two. Indeed where the land is poor, they draw every other ridge, and feed the other off with sheep, as in other counties; but this it not by any means the general practice.

The barley, after turnips, is generally sown upon a second ploughing, and the grass seeds with it; and as the ground has been effectually cleaned, by five ploughings, the preceding year, it is generally in a fine state when laid down in this manner.

(a)

FALLOWING EXPLODED.

For remarks and additional
observations.

IT is a question with some persons, whether summer fallowing be necessary or not? I am one of those who do not think it is. Nature does not seem to require any pause or rest of this kind; all plants make their annual shoots, as regular as the day succeeds the night. The earth was evidently designed to yield a regular uninterrupted produce; and it does so where we leave it to itself. If you do not sow corn it will produce weeds: its productive quality never ceases. It is therefore our business, by good culture, to expel the unprofitable plant, and introduce another, from which we may derive benefit. The idea of leaving land to rest is ridiculous; keep it clean, and intermix the crops sown upon it judiciously, so that one may fertilize as much as another exhausts; and it may be sown as a garden is planted, from one generation to another. Look at half the common fields in England, where the system established by the old school is called two crops and a fallow. What does this exhibit but a conflict between the farmer and his weeds, in which the latter generally get the better; for they are only half stifled, and never effectually killed.

On the other hand, view this country, which yields a crop every year, without being exhausted; and though the soil in many parts is light and ordinary, by being kept clean, seldom fails of a fair return, which enables the farmer to employ more hands, and give a better rent.

COMMON FIELDS.

THERE is still a considerable deal of common field land in Norfolk, though a much less proportion than in many other counties; for, notwithstanding common rights for great cattle exist in all of them, and even sheep-walk privileges in many, yet the natural industry of the people is such, that wherever a person can get four or five acres together, he plants a white thorn hedge round it, and sets an oak at every rod distance, which is consented to by a kind of general courtesy from one neighbour to another.

It has long been a subject of infinite conjecture, how the land of different estates became originally so scattered and divided in common fields. Many reasons are assigned. But, waving all useless investigation of this sort, I shall briefly consider the disadvantages that land of this description is at present subject to, and endeavour to shew the advantages that would result from laying it more together.

Land, when very much divided, occasions considerable loss of time to the occupier, in going over a great deal of useless space, in keeping a communication with the different pieces. As it lies generally in long narrow slips, it is but seldom it can receive any benefit from cross ploughing and harrowing, therefore it cannot be kept so clean; but what is still worse, there can be but little variety observed in the system of cropping; because the right which every parishioner has of commonage over the field a great part of the year, prevents the sowing of turnips, clover, or other grass seeds, and consequently cramps a farmer in the flock which he would otherwise keep. On the contrary, when land is inclosed, so as to admit of sowing turnips and seeds, which have an improving and meliorating tendency, the same soil will

For remarks and additional observations.

will, in the course of a few years, make nearly double the return it did before, to say nothing of the wonderful improvements which sometimes result from a loam or clay; which will, when well laid down, often become of twice the permanent value in pasture, than ever it would as ploughed ground. Most striking effects of this sort are to be seen in Leicestershire, Northamptonshire, and other midland counties. This, indeed, has been urged by some as an argument against inclosing, as they would infer that it lessens the quantity of arable land too much, and tends to make corn dear; but the excess of grazing and ploughing will correct itself. If arable land be laid down, there is a great deal of coarse old pasture land which may be broken up, the turf of which wants renewing; and this old grass land, which could not so well have been spared before, is, of all land, that which is most adapted to the growth of potatoes, hops, hemp, and flax. The markets will ever regulate the proportion of arable and grass land, better than any fixed plan that can be suggested.

If we properly consider the benefits resulting to population from inclosing (though that, as well as the advantages which might be derived from commons, has been superficially questioned) it will strike us with astonishment. Let the population of England be compared with what it was fifty years since, and I presume it will be found increased nearly a third. If I were asked the cause, I should say, that I believe it is chiefly from inclosing; and my reasons for it are, that in all places where my observation has come, it carries full proof. I have seen the effects in many parts of England; but I shall subjoin one striking instance, in this county. The parish of Felbrigg, belonging to Mr. Windham,* consists of about 1300 acres of land, and till the year 1771, remained time out of mind in the following state: 400 acres of inclosed, 100 of wood land, 400 of common field, and 400 of common or heath. By authentic registers at different periods, it ap-

peared

* Member for Norwich.

peared, that the number of soul's had never been known to exceed 124, which was the number in 1745; in 1777, they were only 121; at this time they amount to 174. This rapid increase I attribute chiefly to the recent improvements made in the parish, by inclosing all the common field land, and by converting most of the common into arable land and plantations. The parish has no particular connection with any other, and therefore its own increase of labour and produce must be the principal cause at least of this striking alteration. The parish of Wyburn, which remains uninclosed in this neighbourhood, belonging to Lord Walpole, who possesses, in a very eminent degree, the three great characteristics of a country gentleman, a good magistrate, a good neighbour, and good landlord, is the most like what Felbrigg was before its inclosure, consisting of about the same quantity of common and common fields; but I do not find that the population there has increased of late, which is a corroborating proof of inclosures being in favour of population.

If then, inclosing be found so beneficial, every obstruction to it ought to be removed. In the first place, were there one general Act of Parliament formed, under which any parish that could agree in itself, should be able to take shelter, or even any two or more persons, agreeing upon any exchange of land, or a separation of a mixed interest, whereby the inclosing of such land was the result, should, upon the payment of a small consideration, receive the sanction of a short summary law to bind their agreement. This would insensibly lead to a vast field of improvement.* Something of this sort was lately attempted, but not carried through, and perhaps there might be something exceptionable in the plan.

* If the Board of Agriculture could be authorised by such act to name an umpire to settle differences in point of value between proprietors, it would, in my opinion, facilitate the general business of inclosures very much, as well as many beneficial exchanges of a more private nature.

plan. It is, however, to be wished, that some member of the House of Commons would consider the magnitude and importance of the object, and bring it forward again. If such an attempt be made upon sound and rational principles, I flatter myself the present Minister would not be against its introduction; nor, I trust, at a loss to find the means of removing one of the principal objections to the present mode of inclosing, namely, the great expence, when a bill is solicited, which always operates as a powerful discouragement to undertakings of this kind, and sometimes sets them wholly aside; especially as the fees are double if another parish has the smallest share in the emoluments, though the trouble to those who pass the act is not doubled by it. But this is not all the discouragement; for in the course of obtaining the bill, the evidence must go up to town, and attend a committee of the Commons, afterwards be sworn at the bar of the Lords, and attend their committee also: and as these attendances are often at intervals considerably distant from each other, the evidence must all this time either be supported in town, at a great expence, or make three or four journeys; and as this sort of evidence is generally given by professional men whose time is valuable, these delays are very inconvenient, and frequently operate so powerfully upon the minds of people, that many an inclosure is passed over which would otherwise be effected. This in a great measure will account for so many of our commons and common fields having remained so long in their present state. In making these remarks, it is not my meaning to cast reflections upon any quarter, but to awaken the attention of the Legislature and the Board of Agriculture to the importance of the subject, that all possible encouragement may be given to the honest enterprise of individuals; for all improvements in Agriculture, which carry great weight, and in the end become national objects, must be effected by the individual, because it must be the multitude

ture that cultivate the hidden corners of the earth, and "out of a little make a mickle." Any thing which Government could do in a pecuniary way, by encouraging a few persons in a local situation, will never operate so extensively as the natural exertions of the public : doubtless Government will give the individual all the assistance it can, to remove vexatious obstructions, and smooth the road to honest undertakings which individuals may wish to bring forward. It is likewise presumed, that it would be sound policy in Government so to do, as it will ever derive a proportionate advantage from the industry of the people. I trust, therefore, that the Legislature will see the necessity of contriving a less expensive mode of sanctioning inclosures in general, for the good of mankind, as well as its own emolument.

AVERAGE CROPS.

THERE are some parts of Marshland and the Flegg hundreds which will produce six quarters of wheat, and ten of oats, upon an acre ; but in very light parts of the county the farmer is glad to get two quarters of wheat and three of barley. However, I believe the general average crops of the whole county, one year with another, may be estimated as high as three quarters of wheat and four of barley, and other articles in proportion.

In some parts of Marshland there is a considerable deal of rape-seed grown : in the parishes of Outwell, Upwell, Emneth, and some others in the neighbourhood of Wisbeach, there is likewise a considerable deal of hemp and flax sown. The average produce of the former is about forty-five stone, and the latter about forty, which are valuable crops. These articles are of national importance, and if properly considered, no injury to land ; for when they are cautiously interwoven

For remarks and additional
observations.

with other crops, so as not to come round above once in ten or twelve years, it would be well if the cultivation of them was more general.

IRREGULAR CROPS.

THOUGH it is highly proper to confine tenants to a regular system of cropping, yet there are some little variations that, under certain circumstances, they ought occasionally to be indulged in.

When, for instance, a piece of land is well cleaned, mucked, and sown with turnips, and the crop, notwithstanding all possible care, does not succeed; in such case, if the tenant be allowed to sow wheat, and, in the ensuing spring, clover among it, no harm can result from it, as it would have been seeded with barley if they had succeeded.

Sometimes it will happen, that grass seeds will not take root. In such case it would be a hardship to confine a tenant to keep that piece of land in an unproductive state for two years: he should, when this happens, be allowed to take a cross crop, being confined to turnip or vetch it after such extra crop.

The vetch is a most excellent thing; and great advantage may be derived from it in various shapes. If a piece of barley or wheat stubble, which comes in course for turnips, be found tolerably clean and mellow after harvest, it is a good practice to sow vetches upon it, and harrow them in, as soon as the corn is off. They will often produce a great deal of valuable feed for ewes and lambs in the spring, when such kind of assistance is of incalculable worth, and yet admit of the land being got into very good order for turnips. They are likewise of the greatest profit when cut green in the course of

the summer, and given to cows, and working horses in the stable. An acre, cut and used in this way, will go farther, and do the horses more good, than two acres eaten off in the field : working horses want rest ; in the stable they are not teased by flies ; besides, the quantity of muck which horses make, so foddered, is prodigious.

Exclusive of these helps from the vetch, a few acres of potatoes, and the drum-headed cabbage, are greatly worth a farmer's attention ; and sometimes an acre or two of carrots or lucern is a wonderful help. But above all, where land has a chalk or marl at the bottom, let not saint-foin be forgotten upon such a soil as this ; or even where there is gravel under a good surface, it is impossible to say too much in its favour. In this country it is but little known ; I believe the first person who brought it into Norfolk was the late Sir Henry L'Estrange ; next to him it was countenanced by Mr. Rolfe and the Rev. Armine Styleman ; but the greatest planter of it is Mr. Coke, who has, this dry summer, cut two hundred and sixty-five loads of excellent hay, rather exceeding a ton to a load, from one hundred and four acres. This was from a plant of four years old, upon land not worth more, for any other purpose, than twelve shillings an acre. He is so convinced of its great utility, that he has lately laid down an hundred acres more, and has it in contemplation to carry the cultivation still further.

In some parts of Gloucestershire, when the saint-foin is worn out, they pare and burn the surface of it ; but though it yields a temporary advantage to the occupier, it is a mortgage without redemption upon the fee-simple of the land, by reducing the staple, and depriving the soil of that native quality which is conducive to the nourishment of the natural grasses. The better way is to scale-plow the surface, and afterwards bury the roots, and give them time to rot, and then it is generally very fertile and kind. Burn-baking, in my opinion, is a very pernicious practice, which I trust will soon be exploded. If

it is any where to be allowed, it is upon the coarse fenny parts of Lincolnshire; upon a shallow soil it is insufferable.

SCALE OF RENT.

THIS is the most difficult question to answer, with precision, of any the Board requires; for there is nothing so unequal in the kingdom as the rent of land. Corn, and all articles of merchandize, preserve some degree of proportion; but the price of land is so much affected by local circumstances, that it has no regular standard, though it would be a great advantage to agriculture if it had. Persons of small fortune, and tradesmen, when possessed of a little land, are naturally induced to get as much as possible for it; and farmers, above all others, when they become owners, make the worst landlords in the kingdom. It is therefore to large estates that we are to look for moderation in rents, as they are generally let upon a fair and consistent scale. From this consideration more than any other, great estates are of advantage to the public, as they have a tendency to keep the price of land down to a proper level, which otherwise would, in many places, become so excessive as to give no encouragement to an industrious occupier.

As to the general standard, however, of rents in this county, subject to poor rates and tythes, I believe it varies from 20*s.* to 16*s.* an acre in the first division of the county, which I have described; from 18*s.* to 14*s.* in the second; from 14*s.* to 8*s.* in the third; from 12*s.* to 4*s.* in the fourth; and, in Marshland hundred, from 30*s.* to 20*s.* The average of the whole county is about 14*s.*; and though this would be a dear rent for the same soil in most other counties, the nature of the husbandry, and the industry of the inhabitants, render it

D 2 easy,

easy, and rents are better paid in this county than almost in any other, as there is hardly any such thing as an arrear known; at the same time the farmers live, as they are entitled to do, with comfort.

REPAIRS.

THIS is a consideration of the first magnitude, with respect to landed estates.

That a farmer should have reasonable accommodation cannot admit of a doubt; but it is highly improper that he should be indulged in unreasonable or unsuitable buildings.

Farm-buildings in this county are upon a very respectable footing, but in my opinion they are upon rather too large a scale.

Repairs are chiefly done at the expence of the landlord, and the charge of them is very considerable, not less, as I have found by experience, than ten *per cent.* including materials.

Farmers are very averse to stacking, though wheat is preserved sweeter and better on staddles than in barns: they are always crying out for barn-room; and they certainly are indulged in a greater proportion of it than farmers in any other county. It is not uncommon to have barns upon a 100*l.* a-year which cost 500*l.* there are many single barns that have been lately erected, which have cost considerably more than that sum; and some farm-houses, upon farms of about three hundred pounds a-year, have cost a thousand pounds. This is certainly wrong, for such buildings make a great waste of timber, and are unnecessary, and moreover very bad examples, as one farmer will always covet a similiar thing to what he sees his equal in possession of. I should much rather

see a disposition in the country to build a sufficient number of cottages for the industrious labourers, than to run into an excess of indulgence, where no good purpose can be answered by it.

Having spoken of repairs in a general point of view, I will add a word or two respecting the materials.

The old walls were composed chiefly of clay, or lath and plaster; but all modern buildings are now built with bricks, which are of a very good quality; but the lime is not so good from chalk and marl, as it is in countries where it is made from the stone.

The covering is of three kinds, Dutch tile generally for the houses, and the common pan tiles for stables and barns, or sea or marsh reed, which is excellent in quality, and neatly put on. The general costs for reed and workmanship, and every thing complete, is a guinea a square. No covering is so good as this, as it will preserve a roof twice as long as tile. When straw is made use of for thatch, it is put on in the same slovenly bruised state as in other counties, except in the west of England, where their whole process of thatching with straw deserves imitation, and which I trust will be described in the Reports for Somerset and Dorset.

EXAMINATION OF CATTLE.

NEXT to a farmer's finding out what husbandry is most suitable to the soil he occupies, he should find out what cattle will answer his purpose best; some reverence is due to what his forefathers and ancient custom have sanctioned, therefore he will do wrong to part with the stock that has long been naturalized to the soil, till he has time and opportunity fully to satisfy

satisfy himself that a change will be permanently for the better. But if he can be well satisfied that he can make a change to advantage, it is incumbent on him to yield to conviction, by the adoption of it.

Great part of this county is known to have been, within the space of a century, a wild, bleak, unproductive country, comparatively with what it now is; full half of it was rabbit warrens and sheep-walks; the sheep were as natural to the soil as the rabbits, being hardy in their nature, and of an agile construction, so as to move over a great deal of space with little labour. When great tracts of this land were brought into a better state of cultivation, the Norfolk sheep gave great aid to the new improvement, as they fetched their sustenance from a considerable distance, and answered penning as well as any sheep whatever. Folding became in high estimation, and, aided by marling, brought the improvement of the county rapidly forward. Soon after, the turnip system followed, which enabled the farmer to improve his stock considerably by better keeping; so that at this time they are become respectable and profitable in their return, and in as high estimation at Smithfield as any sheep whatever, for no better mutton can be put upon a table; and, though they produce but little wool, it is of a good quality. Notwithstanding this, there are some gentlemen, and some considerable farmers too, who begin to dislike, or at least affect to despise them, and prefer the Lincoln and Leicester breed. I am perfectly willing to leave the gentlemen to adopt the change to what extent they please; and will admit, that in Marshland hundred, in parks, and in small rich inclosures in the vicinity of towns, they are very profitable stock. But I have no patience with the great farmer, in suffering himself to be lulled into so gross an error; for he will never be able to substitute any other sheep that will answer penning so well as the native sheep. The heavy Leicestershire sheep has not activity enough

to move over a sufficiency of ground to get his living, and therefore can never answer folding. If the great farmer gives up folding, he loses all his consequence, as he cannot keep up his land so well by any other means, and commits upon himself a sort of *faux de se*: for the greatest argument that has ever been advanced in favour of large in preference to small farms, has been, that, by a man's occupying a large tract of land, he is enabled to keep a large flock of sheep, which tends highly to its improvement, which small farmers cannot do, and therefore are not able to make so much of poor land as the great farmer. When, therefore, a great farmer, who used to pen a large flock of sheep, ceases to pen any, which, I am sorry to observe, begins to be very much the case in the neighbourhood of Dorking, and many other light parts of the county, it is time for landlords to open their eyes, and put these large tracts of land into more hands, which would be a great blessing to the country. There is no part of England where there are more industrious husbandmen, with small capitals, making daily applications for little farms, than in Norfolk: at the same time it is common, in the west part of it, to let farms of 1000*l.* a-year; and there is one of 1700*l.** I look upon this as bad policy in landlords, as they have only the choice of one tenant where they might have twenty; and it certainly has a bad tendency, with respect to the public, in more instances than one. But, to return from this digression to the Norfolk sheep, it seems to me pretty obvious why the great farmers give up penning, instead of keeping their wethers till they are three years old, as formerly; they now make a point of sending them fat to Smithfield, at two years old, which they could not do if they were to fold them a season first. This method of quick grazing has long been practised in the east end and other rich parts of the county, where farms and inclosures are small, and the land warm; but it is only a recent custom

* Belonging to Mr. North of Rougham.

**For remarks and additional
observations.**

custom upon the great farms in the open west country; and I am apprehensive, that unless the landlords, and oblige their tenants, upon such large farms, to pay a stipulated quantity of land every year, that light parts will revert back to something like state.

Crossing the breed should be done with great care in general, it is best to keep each sort of cattle possible in its kind, as every sort possesses some advantages: but, when land becomes much improved, may be improved in proportion; and in some cases, a breed may be crossed with propriety; but there must be some affinity or similitude between the cattle crossed. It is a manifest incongruity to match a Herefordshire cow, with a Suffolk polled cow, or a Norfolk and a Leicestershire, or a Norfolk and a South Down, or any long-wooled with a short-wooled: but a Leicestershire sheep may be mated with a Cottswold; or a South Down sheep with a Berkshire or a Herefordshire.

The cows which are natives cannot be improved, they are small, with turned-up horns, and generally white colour; but, of late years, the Suffolk polled cow, of white colour is much introduced; it is not indeed a good animal, but, where the pasture is tolerably good, is certainly fitable.

Oxen are very little used in this county for ploughing, those grazed are chiefly brought from Scotland.

* It were a good thing for this country, and England, if oxen were more used than they are. In many instances, they are as good horses in point of utility, and in point of economy they are, at least, cheaper. It was with real pleasure that I some time ago, saw Lord Hawke, whose experiments in husbandry are extensive, set an example of ploughing with two oxen only, which is a complete success, as they plough nearly as much as an equal number of horses, and if the cheapness of their keep, and other circumstances are certainly preferable to horses.

For remarks and additional
observations.

which are in general found to answer better than those which are home-bred. They are generally bought in the autumn; and, if they are in forward condition, one acre of turnips will put from five to six pounds profit upon an ox by Lady-day or May-day following. Those which are not so forward are kept upon offal turnips in the winter, and fatted off in the marshes by harvest, when they frequently double their price within the year, which in either case I consider as a very profitable scale of grazing.

The horses I have described in another place.

The pigs are remarkably thin-haired, and small, compared to the Hampshire or Herefordshire breed, but very prolific, and the pork excellent; yet the inhabitants have no idea of making bacon.

The poultry is superlatively good, especially the turkey, which has no equal, at least in flavour, which I attribute to the dryness of the soil, and to the greater range which they have more than in other counties.

The game is still in great plenty, though not equal to what it was formerly. Many of the gentlemen are too tenacious of it, which makes the farmer, its natural guardian, less careful to preserve it; and it is too often a source of discord in the county.

THE IMPORTANT QUESTION OF LEASES CONSIDERED.

THE ancient feudal tenures had undoubtedly a strong tendency to enslave mankind, by subjecting tenants to the control and power of an arbitrary lord; but like all other things, there were some advantages to be found in the system. Every man

E man

man who held land, had a certainty in it, as the tenant generally held his possession for life. When these tenures were discomfited by the liberal spirit of modern law, some new compact became necessary, and terms of years were substituted in lieu of the former; for as land properly managed, requires great expence, and seldom answers that expence in one year, it was but reasonable that the man who applied his judgment, devoted his labour, and ventured his capital, should have some reasonable time allowed him to reimburse himself, and derive some proportionate reward for what he had done.

In the course of time, this term began to be reduced into a regular number of years. As most of the land was formerly under the regulation of two crops and a fallow, the time allowed was from three to twenty-one years, and the latter in the end became the most general limitation, and is the most prevalent term for leases at this time.

That leases are the first, the greatest, and most rational encouragements that can be given to Agriculture, admits not of a doubt, in my opinion; but of late years there are very strong prejudices entertained against them. In this county it is rather the fashion to grant leases, which in a great measure accounts for the improvements that have taken place in it; most of the great estates have been made from it: for without leases no marling to any extent would have been undertaken, nor so much ground brought into cultivation, by one-third, as there now is. The Holkam estate alone strongly proves this assertion, as it has been increased in the memory of man, from five to upwards of twenty thousand pounds a year, in this county only, and is still increasing like a snow ball. Mr. Coke, the present owner of it, is a real friend to Agriculture, and justly considered as one of the best landlords in the county. From my particular knowledge of him, I can say, that at least two years before his leases expire, he puts the tenant upon a footing of certainty, by stating to

For remarks &
observat

him the terms he expects for a renewal of his lease, that he may have time to look out for another farm, in case he does not like the conditions that are offered to him; but though the advance of rent is often very great, I have never seen an instance of any tenant leaving him, unless grown too far in years to be able to continue. The stipulations and reservations in his leases are founded, too, upon principles of equity, and consist in no unnecessary repetition, or unreasonable exactions, being couched in plain terms, such as ought to compose a liberal contract between a gentleman and an industrious tenant; which may be worth imitation in those who are fond of crowding their leases with overbearing compulsatory clauses, tending more to create obedience and servility in their tenants, than to promote good husbandry. There are some few estates in this county of a very considerable size, where leases are entirely withheld; but it is evident, that these estates are obliged to be let for at least twenty per cent. less than what they would be if leases were granted. In many other counties the prejudice is so strong, that an owner would almost as soon alienate the fee simple of his estate, as demise it for a term of years. I will not be so harsh as to say, that this dislike to leases arises from obstinacy or want of sense, but it is certainly an unfortunate prejudice which the proprietor takes up, and tends greatly to injure the public. One of the arguments made use of is, that it makes the tenant insolent and independent. There may be some few instances of this sort, but they ought not to be allowed to operate to the general injury of a country, however indifferent a gentleman may be to the advantage of his own purse. A man of large landed property owes, in my opinion, something to society, and ought to get rid of his prejudices, where they affect the community. Providence, who put him in possession of his property, undoubtedly meant that he should in some sort act as a public steward, and it cannot be right that he should wrap up the talent entrusted to his care in a napkin.

It grieves me to go into a country, which I often do, and find it almost in a state of nature, because the soil, being wet and expensive to cultivate, the tenant cannot afford to do it without encouragement, and the owner's insurmountable objection to leases, keeps him from granting the sort of encouragement which is essentially necessary. The yeomanry in such parts, are upon a wretched miserable footing, the public sustains a vast loss, and the owner has in lieu of the comfort he might bestow, and the good he might do, no other consolation than that he has the county more at command. But even this is a mistake; for I have, except in a few instances, always found a tenant as obliging and well behaved to his landlord, when he had a lease as when he had not.

The arguments in favour of leases seem to me so powerful, that I could not, on this occasion, suppress giving my full sentiments relating to them; and it seems unreasonable, to the greatest degree, to expect a tenant to hazard all he is worth, and devote the best part of his life, upon an estate, which, upon the death, or perhaps the mere caprice, of his landlord, he is liable to be turned out of at six months notice. I will not, however, deny, that there may be some reasonable exceptions against the practice I wish to recommend, where lands lie near a gentleman's house, part of which it may be an object to take into hand; or, if a minor be very near of age, or if there be any immediate design of selling an estate, it is not prudent to grant leases, because, in the latter case, a purchaser may wish to enter into immediate possession, and may have particular objects in view, which will induce him to give a higher price than he would, under the idea of purchasing merely to pay him a reasonable interest. But, except in these instances, leases, in my opinion, cannot be too strongly recommended; for I am certain, that, where estates are under an entail, or in a family that has no idea of parting with them, leasing is unquestionably the most effectual means of raising their value, as the owner by this means has it in his power to

Request for improvements, in what manner and proportion he pleases, which he cannot do by any other means so well.

PLANTING,

AS far as relates to the embellishment of gentlemen's seats, has kept pace in this country with most other parts of England. Great bodies of firs, intermixed with a less number of forest-trees, have been planted, by most of the gentlemen of large fortune, in their parks and home-grounds; but the planting of pits, angles, and great screens, upon the distant parts of their estates, which I conceive to be a greater object of improvement, has been but little attended to. I shall mention two or three plantations, and add a hint upon this subject, which I flatter myself will deserve notice.

Mr. Marsham of Stratton ranks first in priority, as he (like the late Lord Bathurst) has planted trees with his own hand that he might sell for four or five pounds a-piece, if he chose to cut them down. The world is likewise much indebted to him for several ingenious publications, explanatory of some curious and laudable experiments, for facilitating the growth of timber, by keeping the bark clean from moss, and opening the surface of the earth round the trees to let moisture and air into the roots: and though this assistance cannot be given to trees upon a very large scale, it may often be adopted in favourite spots, and small plantations, to great advantage, as I understand that he has one particular tree of his own planting, which has been so assisted in its growth, that it would sell for upwards of ten pounds; and he has so judiciously scattered a great number of trees on the sides of the road near his residence, by planting them in the Flemish file,

without their heads, that they have flourished extremely, and changed the dreary prospect of a poor common to an agreeable sylvan scene.

Mr. Berney of Brecon ranks next as a planter, in point of date, as he has paid great attention to it for upwards of fifty years. In the year 1757, he obtained the honour of a silver medal for a large plantation of oaks.—His Spanish chesnuts are very fine, many of them fourteen or fifteen inches girt, and his larch as much; and he has the merit of having done more to establish the credit of the latter than any other person I know: he has put it to almost all the purposes of buildings, such as principals, spars, lath, and boards; likewise to many cabinet uses, such as doors, tables, window-frames, book-cases, chimney-pieces, and many beautiful specimens in carving. In short, he entertains the highest opinion of it; and, having made observations upon the proper season for felling it, as well as all other firs, he recommends it to be done in the months of July or August, as he has found, by experience, that the liquid which oozes out at that time of the year, almost immediately turns to a sort of rosin, which operates as a stiptic, so that the wood is not so much drained as at other seasons, but hardens, and comes into use sooner, which is a hint worth notice.

Among the modern planters, Mr. Coke unquestionably ranks foremost. He has planted, since he has been in possession of his estate, four hundred and eighty acres of different kinds of plants, two-thirds of which are meant to be thinned and cut down for underwood, so as to leave oak, Spanish chesnut, and beech, only as timber. His intention is to continue to plant fifty acres every year, till he has completely environed three thousand acres of land, which is to compose his park and demesne farm. These plantations already afford great cheerfulness; and, as the ground has more variety than many other parts of Norfolk, they will give a bold effect, and be truly correspondent

For remarks &
observat

correspondent to the magnificent seat they are meant to ornament. I cannot quit Holkham without taking notice of a very commendable part of Mr. Coke's practice in planting, which is, his allowing the neighbouring poor to plant potatoes among his young trees, the first two or three years, which is a great comfort to them, keeps his land effectually clean, and saves him a considerable expence in hoeing.

Mr. Windham of Felbrigg is also a considerable modern planter. His plantations are designed to answer two purposes, to ornament and belt round his park, and to extend his great woodland scene nearer the sea, towards which, at two miles distance it forms a grand bulwark, and from which he looks down an easy declivity, over a bold shore, to an unlimited prospect on the German Ocean. Most of his plantations have been raised from seed; and there is one that stands unrivall'd; it was sown with acorns, Spanish chesnut, and beech-mast, seventeen years since; has been already twice thinned for hurdle-wood; the trees, most of which are thirty feet high, being at the regular distance of twelve feet, with a valuable underwood at four feet distance. This plantation was taken out of the park, was well fallowed the preceding summer to its being sown, and, during this state, there was a flock of sheep in the park, which were continually laying on the fallows, to which, in a great measure, I attribute its astonishing floridity, as it surpasses every thing of the kind I ever saw, and therefore I mention this as a thing worth attending to. There is another plantation which is highly deserving notice and imitation; it is a belt sixty-six yards wide and nine miles round, inclosing the estate of Mr. Galwey of Tofis, near Thetford. The merit of this plantation justly belongs to Mr. Griffin of Mundford, who advised Mr. Nelson, whose estate it was formerly, to this undertaking. It was planted with a variety of trees at six feet apart, and cost ten pounds an acre. It was begun in 1770, and completed in 1778. It has

has been thinned several times; and the trees, if sold at this time, would be worth fifty pounds per acre. But the advantage it is to the estate, to say nothing of its ornament, is not to be described, as it affords shelter and warmth to cattle, which next to food, contribute to their health and thrift; so that the land is increased in value considerably. In short, if Mr. Galwey would now line his belt with deciduous trees, such as birch, beech, and chesnut, to repel the wind, which now begins to draw through the bottom of the plantation, as it consists chiefly of firs, it would enhance the value of his estate a full third.

There is great advantage in planting a large body of wood in a naked country, which is not at first perceived. Where there is nothing to resist the cold winds, vegetation and cattle are cut to death, and nothing rich from the atmosphere can be retained. But plantations stop the rapid current of the air, collect a density which helps to enrich the surface of the earth; and, moreover, by giving warmth and comfort to cattle, half the fodder will satisfy them; and by degrees, as the cattle couch under shelter, the soil by degrees improves. This is clear to demonstration, by taking a view of Lord Petre's Park, which in the midst of a barren, dreary country, forms an agreeable shady retreat, covered with a pleasant verdure, and richly ornamented with forest trees of large dimensions. His Lordship is now considerably extending his plantations with great taste and success, to the open parts which lie on the outside of his estate.

I wish to impress all men of fortune with the importance of extending their plantations to the distant parts of their estates, where soil and situation are suitable, and not merely content themselves with the environs of their own demesne: and that they may be informed how valuable the Spanish chesnut is above most other trees, I take the liberty, on this occasion, to refer them to a letter of mine upon that subject, published in the Transactions of the Society of Arts, Manufactures, and Commerce, for the year 1792.

Before

Before I quit this subject, I will venture to recommend another tree to the attention of all planters upon poor light lands, which seems to exceed most others in growth. It is the tall straight growing pinaster, which is frequently planted with Scotch firs; and when they grow up together, by many incurious people, is taken for a Scotch fir. But I have always remarked its superiority of size when mixed with it, and of the same age. In short, it frequently grows as fast as an alder, or an ash, and therefore, if it be planted merely with a view of being cut down for fuel, it will be found a very profitable tree in many parts of England; but as it will grow to a very large size, it will, in my opinion, be found applicable to many useful purposes, as it admits of being cut into very large scantlings. As a decided proof of its advantage over the Scotch fir in growth, and consequently in value, I need only state, that about forty years since, his late Royal Highness William Duke of Cumberland made a plantation of nearly a hundred acres on a remarkably poor sandy land, adjoining to Bagshot Heath, in Surry, chiefly with Scotch firs, but with a smaller proportion of pinasters intermixed with them. The plantation is reckoned to have succeeded extremely well, and has been a great ornament to the country; but the Scotch firs do not average more than five cubical feet, whilst the pinasters are full forty; some of them I have measured, and found to be upwards of seventy feet.

IMPLEMENTS.

THE plough deserves the first notice, as it is compact and light in its construction, as I have shewn, page 15; does its work remarkably clean, and is easily managed with one handle. The harrows are no ways remarkable.

F

The

The waggon is remarkably heavy, which is the less necessary, as none of the roads are rocky. It has, however, one advantage in being made to lock so far under the bed, that it will turn as short as a post chaise.

The cart is likewise heavier than is necessary ; and three-wheeled tumbrils are seldom used, though they would often save thirty per cent. in the expence of marling.

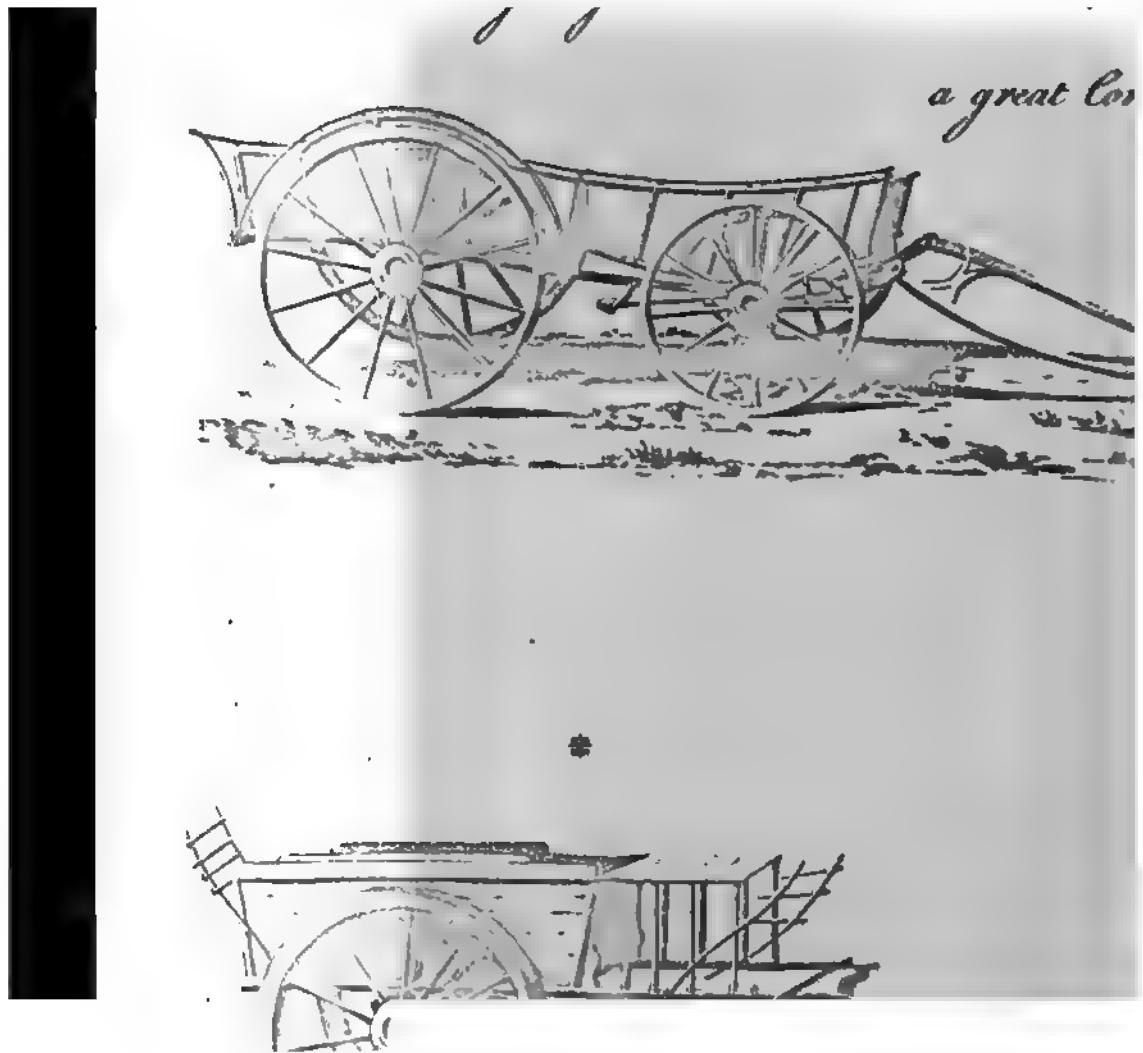
There is one thing frequently practised in hay and corn-harvest, which is, the adding a couple of temporary fore-wheels and a frame to the common carts, which answers the purpose of a waggon ; and in little farms it is a real object of frugality, and in large ones a great help in a busy season. It is called an hermaphrodite, and I here subjoin a sketch of it ; noting, that the blue part is the original cart, and the red the part which is added.*

PRICE OF LABOUR.

THE standing wages for a labourer in husbandry, is now almost generally raised to 1*s.* 6*d.* per day in summer, and 1*s.* 2*d.* in winter ; and there is no country where the labourer does a fairer day's work. The price of threshing is also fixed to 2*s.* a quarter for wheat, and 1*s.* for barley ; and many extra jobbs are done by the great, which is always the most pleasant contract between master and man ; and the oftener work can be done in this way the better.

The poor rates having increased in this county in proportion to others, several houses of industry have been established ;

* The Berkshire waggon, of which I subjoin a sketch, is what I recommend to the attention of the Norfolk farmers, being a horse's draft lighter than their own when loaded, and being calculated to carry larger loads, and much lower, which is a great convenience.





blished ; but they are grievous things in the eyes of the poor, and, I am afraid, are not found to answer the end that was expected from them. I know of no law that can enforce industry : it may be encouraged, and great good will result from it ; but it never can be effected by compulsion.

There are two principles which should be kept alive as much as possible in the minds of the poor—pride and shame : the former will lead them to the attainment of comfort by honest means ; and the latter will keep them from becoming burthensome to their neighbours. But many of the modern plans, for making provisions for them, have tended to destroy these principles.

A man born to no inheritance, who assiduously devotes his whole life to labour, when nature declines, ought to be distinguished from the lazy and profligate wretch, who has seldom worked but by force. One ought not to be crowded into the same habitation with the other ; but in houses of industry there can be no distinction.

The social clubs for mutual relief, which are prevalent in many parts of the west of England, are highly commendable ; and, perhaps, as well worth the attention of the Board of Agriculture, as any object they can take up. If a little encouragement could be given to these laudable societies, which are now sanctioned by law, and proper places of security could be established for their little funds, it would tend very much to encourage the poor to struggle with their difficulties ; and it would be consistent with sound policy, as well as humanity, in the rich and opulent, to add little donations, to the poor man's nest egg, on these occasions. Earl Harcourt's example at Newnham, in Oxfordshire, is well deserving imitation : if a poor man puts a penny into the social box, he puts in another ; if a farmer or tradesman contributes a shilling, he adds another ; and by this means his Lordship's estate is kept in high credit ; the poor rates are low, and the spirit of the peasantry unbroken.

In this county it is evident, that the labourer who can keep a cow or a pig, is always a faithful servant to the farmer who employs him. He has a stake in the common interest of the country, and is never prompt to riot in times of sedition, like the man who has nothing to lose; on the contrary, he is a strong link in the chain of national security.

There are but few great farmers inclined to accommodate cottagers with a little land, and when they do let them any, it is generally at double the rent they give for it. But I am persuaded, that if there were a certain number of cottages, in proportion to the size of the estates, and they were accommodated with a couple of acres of land, to enable them to keep a cow, and near two or three pigs, and those places were bestowed as a reward to labourers of particular good conduct, it would do wonders towards the reduction of the rates, and the preservation of order; and I have been witness to several striking proofs of this, in two or three labourers, who have been thus favoured, and who were so far from being prompt to riot, that their attachment to their masters was exemplary, as they were not only steady in themselves, but by their example kept others from running into excess. There cannot well be too many of these places, attached to large farms; they would be the most prolific cradles of the best sort of population.

There is another thing which it is incumbent on all occupiers of land to do, which is, to supply their own labourers with wheat at a moderate price, when the price in the market is high and oppressive to them. It is but reasonable, that the human servant should fare as well as the animal servant: a farmer does not give his horse a less quantity of oats, because they are dear, nor is it reasonable, that the ploughman or thresher in the barn should have less for his penny, because his master gets a great price; but I do not mean to say this should be extended to manufacturers, because they are in general better paid than labourers in agriculture, and have

not so immediate a claim upon the land, as the workmen in the vineyard.

If one thing, in aid of what I have taken the liberty to suggest, could be established, it would perhaps go near to remedy all grievances; and in a great measure set aside the necessity of the poor laws, and this would be the adoption of something like Mr. Ackland's scheme of taxing labour for its own support, by levying from the young and lusty, a penny to be put out upon accumulated interest, for the advantage of the old and decrepid. Age and infirmity would then dip its hand into the purse it had helped to fill; honest pride would be preserved, industry encouraged, and the latter part of a poor man's life would terminate in comfort.

SUPERABUNDANT PRODUCE.

A COUNTRY is usually denominated good or bad, in proportion to its general produce. If its Agriculture does not produce more, in the whole, than what is sufficient to support itself, and its own rural trades, it must evidently be *minus* in the common scale of production, and fall under the latter description, because every country must at least look for assistance from some clothing manufactory, though foreign luxuries were totally out of the question. But if the husbandry of any particular district can support itself and its local trades, and furnish half as much as it consumes, either to encourage manufactures at home, or to supply foreign markets, it is justly entitled to the former character.

That Norfolk will stand eminently high in reputation, when viewed in this light, will not admit of a doubt from any person who is sufficiently acquainted with its powers. But

as speculations of this sort may be new to many persons who may peruse these remarks, I shall endeavour to explain through what channels this great abundance swells to such a head, that imitation may secure the same advantages, where congeniality of circumstances will admit of it.

In a good corn year, when there is a free exportation, it has been said, that the four Norfolk ports export as much corn as all the rest of England, which I believe to be true, for it is seldom less than a million sterling in value, and often more; and though some of the corn comes down the Waveney out of Suffolk, and some down the Ouse from two or three of the midland counties, this addition seldom bears the proportion of more than an eighth part of the Yarmouth export, and a third of the Lynn, which is not more than a tenth upon the whole.

The following is the nearest calculation I can make of the usual excess of corn, and other articles of provision, sent yearly out of the county, after reserving, not only a sufficiency for its people employed in agriculture, but for fifty thousand home manufacturers and six thousand seamen.

The corn I am able to state with accuracy, as I have obtained it from the Customhouse-books, where the quantity exported is registered. The cattle I cannot be so confident of; but I have taken all the pains in my power, to glean up the best information that could be obtained; and where I have deduced any thing from comparison, I have taken care to be within the limits of justification. The bridges of St. Germain and Magdalcn, ascertain, in some degree, the number of Scotch and Irish cattle brought into the county; and the turnpikes leading out of the county, together with the assistance which I have had from Mr. Archer, and other intelligent salesmen at Smithfield and St. Ives, enable me to come pretty near to what I conceive to be the truth.

Last year there were actually 20,594 fat bullocks, brought from Norfolk to Smithfield and Islington, and about 3,000 to

For remarks and additional observations.

St. Ives and other places; but either from the war, or some other cause, this is considered rather as a larger supply than usual; but they may be safely taken at 20,000 as a yearly average, about one quarter of which are home-bred beasts, and the remainder Scotch and Irish. The sheep are supposed to be upwards of 30,000; at least they may be safely taken at that number. Objects, such as swine, butter, rabbits, poultry, &c. are not of so much consequence; but suffice it, that they shall all be moderately estimated.

The return from the Norwich manufactory I shall not include in my aggregate, * as there is a great importation of coarse wool to support it from Lincolnshire and other parts: nor shall I set any value upon the whale or mackarel fisheries, as they are very precarious; but as the herring fishery is a permanent, though also a variable branch of provincial profit, and is wholly fed and supported by the county, I think it fair to include it.

I shall begin my recapitulation with the corn, which is to be considered as *the yearly average* which has been exported to foreign ports and coastways, for the last three years, which were far from being prime ones.

The excess of each species of grain, after deducting an equal quantity to balance what is occasionally imported, and also an eighth part from the port of Yarmouth, upon all grain for

* In fact, I consider manufactures as an object deserving a separate investigation. But they are undoubtedly more deserving of encouragement in a productive town in a sterile country; especially where the industry of the inhabitants is singularly meritorious, as is the case at Norwich, where new objects of manufacture have recently been introduced since the woollen has declined. But still it would be better if the manufactory, which has been so long familiar to the city, could be encouraged, so as to regain its former splendour and extent, which it is supposed might be the case, if, through the assistance of Government, a free communication could be opened with China, where, if I am rightly informed, the Norwich goods are in a considerable degree of credit.

for the supposed proportion furnished by Suffolk, and a third from Lynn, (upon all except barley) supposed to come down the Ouse out of the midland counties. But it is conjectured, as much barley goes up the Ouse as comes down it. Premising this, the account will stand thus :

FROM YARMOUTH.

Quarters.	Pr. per Qr. at	Amount.			Tot. of Exports.		
		L.	S.	D.	L.	S.	D.
Wheat,	22466	2	4	0	49425	4	c
Wheat Flour,	30578	2	16	0	85618	8	c
Barley,	139384	1	4	0	155860	16	0
Malt,	66579	2	0	0	133153	0	0
Rye,	1315	1	5	0	1643	15	0
Pease,	6116	1	8	0	8562	8	0
Beans,	10440	1	4	0	12528	0	0
		<u>446796 11 0</u>					
From which take, for 7479 quarters of oats imported more than were exported, at 17s. a quarter,		<u>6356 3 0</u>					
		<u>Neat exports from Yarmouth,</u>			<u>440440 8 0</u>		

FROM LYNN.

Quarters.	Pr. per Qr. at	Amount.			Tot. of Exports.		
		L.	S.	D.	L.	S.	D.
Wheat,	30016	2	4	0	66035	4	0
Wheat Flour,	3138	2	16	0	8786	8	0
Barley,	112944	1	4	0	135532	16	0
Malt,	10703	2	0	0	21406	0	0
Rye,	12298	1	6	0	15372	10	0
Pease,	3855	1	8	0	5397	0	0
Beans,	4708	1	4	0	5649	12	0
Vetches,	73	1	10	0	109	10	0
Rape Seed,	2423	1	16	0	4361	8	0
		<u>262650 8 0</u>					
From which take, for 4993 quarters of oats imported more than were exported, at 17s. a quarter,		<u>4244 1 0</u>					
		<u>The neat exports from Lynn,</u>			<u>258406 7 0</u>		

N. B. The excess of linseed imported is about equal to the mustard-seed exported.

Carried forward, £ 698846 15 0

(51)

Tot. of Exports.

For remarks and additional
observations.

Brought forward, 698846 25 0

FROM WELLS.

Quarters.	Pr. per Qr. at	Amount.			L. S. D.
		L.	S.	D.	
Oats.	4186	2	4	0	9209 4 0
Flour,	2634	2	16	0	7375 4 0
-	58376	1	4	0	90051 4 0
-	10464	2	0	0	20928 0 0
-	397	1	5	0	496 5 0
-	2150	1	8	0	3010 0 0
					111069 17 0
which take, for 2553 quarters of imported over and above the quan- tity exported, at 17s. - - -					2170 1 0
					Neat exports from Wells, 108899 16 0

FROM BLACKENEY AND CLAY.

Quarters	Pr. per Qr. at	Amount.			L. S. D.
		L.	S.	D.	
Oats.	6378	2	4	0	14031 12 0
Flour,	785	2	16	0	2198 0 0
-	59116	1	4	0	71011 4 0
-	2525	2	0	0	5050 0 0
-	46	1	5	0	57 10 0
-	1240	1	8	0	1736 0 0
					94084 6 0
which take the excess of 364 quarters of oats imported, at 17s. a quarter, - - - - -					309 8 0
					Neat exports of Blackney and Clay, 93774 18 0
amount of the whole county, after deducting for the folk-and midland proportion, - - - - -					£ 901521 9 0

G

CATTLE

CATTLE.

	£.	s.	d.	£.	s.	d.
5000 home-bred bullocks, at 10l.	50000	0	0			
15,000 Scotch and Irish, the fattening profit of which may be set at 5l. each,	75000	0	0			
30,000 sheep, at 1l. 15s.	52500	0	0			
Swine, not less than	10000	0	0			
Rabbits, at least	10000	0	0			
Dairy articles, about	5000	0	0			
Poultry and game,	3000	0	0			
Wool, conjectured to be about	20000	0	0			
The herrings exported,	50000	0	0			
Add, for corn, grain, flour, &c. as before stated,	275500	0	0			
Total yearly produce sent out of the county,	901521	9	0			
	1177021	9	0			

I have purposely brought the whole into money, with a view of shewing with the greater ease, what number of persons this extra, or superabundant produce is equal to the support of. And if we apportion ten pounds for the sustenance of a human being one with another, which must be acknowledged to be a liberal allowance where luxuries are excluded; it will appear that this county sends out a foreign supply for upwards of 117000 persons. And if we take the 56,000 employed in the home manufactures and navigation, from the whole population of the county, it will shew, that the county furnishes more than a sufficiency for double the number of persons employed in agriculture and its appendant trades.

Every impartial man, who considers this vast produce, must be struck with astonishment; and as Norfolk is far from being naturally a good country, it must, undoubtedly, be to art and industry, that this great source of treasure is to be ascribed. It is evidently so great, that no part of England, not even the famous vales of Taunton, White Horse, or Evesham, are supposed to exceed it in proportion of corn.

Government must certainly draw from this county a much greater portion of revenue, than from any other; for as nearly one

For remarks and additional
observations.

one third part of all the arable land is sown with barley every year, and as the barley crop is generally very good, (half of it being sown upon clean land after turnips) the return which it must make, when traced through the malt house, brewhouse, and distillery, will be found to amount to a sum almost incredible.

I do not exhibit this statement as a panegyric on the county; but to point out to the Board of Agriculture how beneficial this kind of husbandry is above all others ; not only to the individual, but to the public revenue ; a most powerful argument this, for Government to give all possible encouragement to inclosures in general ; and a grand inducement for other countries to follow the like course of husbandry, wherever the soil will admit of it.

CONCLUSION.

CONCLUSION.

'I'HOUGH I have in this Report given great commendation to many practices of husbandry, which I think deserve imitation, it is incumbent on me, for the sake of justice, to take notice of a few things, which are reprehensible. The harvest, a very important branch of husbandry, is gathered in a very slovenly manner. Women and boys are seldom employed in any part of it. A certain number of men are provided according to the number of acres of corn ; in the best parts of the county, ten or twelve acres is the allowance to a man ; in the light parts, fifteen or sixteen acres. The man is boarded extremely well, and his allowance in money is generally two guineas, whether the harvest is long or short. The first thing the farmer aims at, is to time the beginning of his harvest, so that his corn may follow in succession, that no interval or pause may take place ; as the boarding of his men is attended with great expence, and therefore the sooner he can get the work through, the less it will cost him in provisions. This narrow idea often costs him nearly a tenth part of the value of his crop, for he seldom begins reaping his wheat, so soon, by ten days or a fortnight, as he ought ; though wheat is always the better for being cut rather early. It often stands till the ears turn down in an inverted state, and till it is so ripe and brittle, that when there happens to be a brisk wind, it is no uncommon thing to see four or five bushels of wheat whipt out and lost, and sometimes a quarter of oats.

The barley is always carried from the swarth, so that they never begin to carry till late in the day ; and no part of the ground

ground is raked till afterwards; so that a vast deal of corn is trodden out. After the bulk of it is carried, the piece is drag-raked, by men, with iron teeth drags; or by a drag fastened to a pair of wheels, and drawn by a horse. The latter is the best practice of the two, though they are both bad; for the takings are so mixt with grit and dust, that the corn is of an inferior quality to the other. It cannot be doubted, but the practice of other countries is to be preferred to what is observed here.

In the first place, the husband is feeding with unusual luxury, while the wife and children are starving. It would certainly be more comfortable if they undertook the reaping and mowing of a certain number of acres; in which case the man might work with his family, and his wife and children would earn something considerable, not only in the reaping part, but in the cocking and raking the lent grain, which would enable them to eat a comfortable morsel together. There would not, if this was the case, be half so much corn shelled and lost; and the barley, in a wet season, would be better preserved, and admit of being carried much earlier in the morning from the cock, than it can from the swarth.

Stacking is another thing which is very ill done here, particularly wheat stacks, though they are somewhat improved too, in making them of late years; but they run them up in a long rickety form, without symmetry, and seldom set them upon staddles, to preserve the corn from vermin. Another very bad practice relates to their fences. No farmers raise a white thorn hedge sooner, or destroy it so soon; every other time of cutting hedges of this sort, they are buck-stalled, as it is called, which is cutting the whole hedge off at about three feet from the ground, which is an irreparable injury to it, by checking the growth, and making it hollow at the bottom. And as to other thorns and stubble wood, they are apt to cut it as their immediate wants require it, at all seasons

of

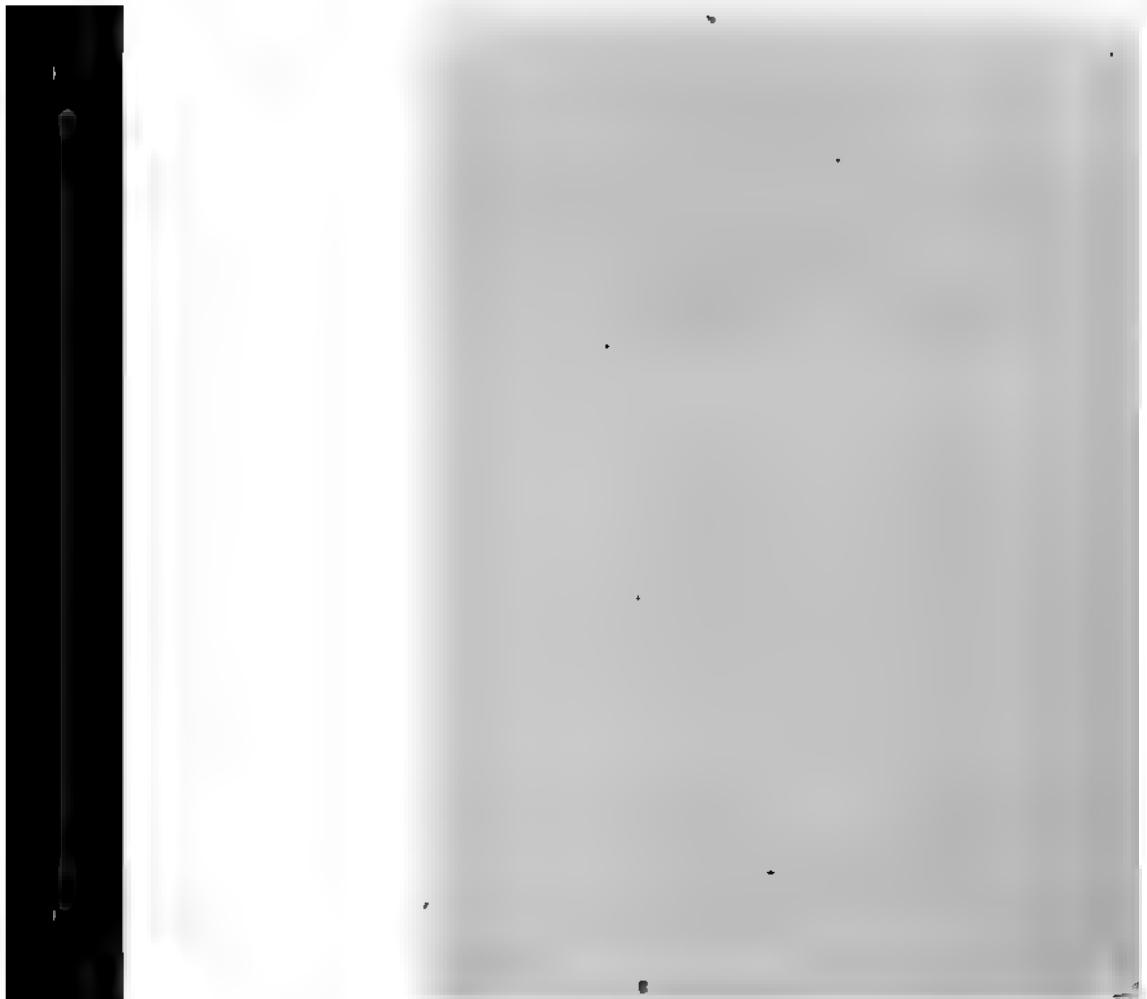
remarks and additional
observations.

of the year, and to leave the stool in a jagged state admit the wet into it, which causes it to decay.

Thus I have, without extenuation or exaggeration a faithful account of the present state of husbandry in county; and the intelligent farmer, in other parts under no difficulty in determining what parts to adopt what to reject. If any further questions are now提出的 shall be ready to answer them; and in the mean time recommend Mr. Ewen of Norwich, a Land Agent of respectability; and Mr. Repton, of Oxnead near (brother to the ingenious Mr. Repton, so justly famous in the embellishment of gentlemen's seats) as correspondents to the Board of Agriculture.

NATHANIEL R-----

CRAIG'S COURT,
7th Dec. 1793.



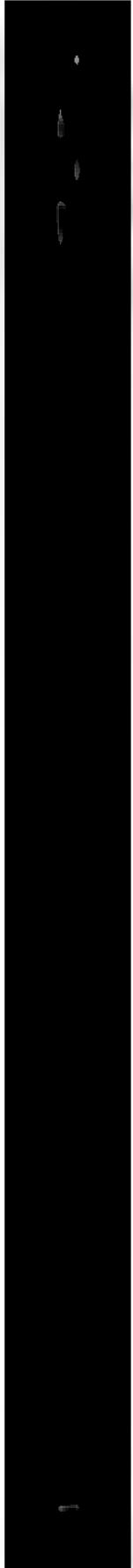
C

C

C

C











Stanford University Libraries

16105 002 107 766

U
4.
A
V.

STANFORD UNIVERSITY LIBRARIES
CECIL H. GREEN LIBRARY
STANFORD, CALIFORNIA 94305-6004
(415) 723-1493

All books may be recalled after 7 days

DATE DUE

--	--

